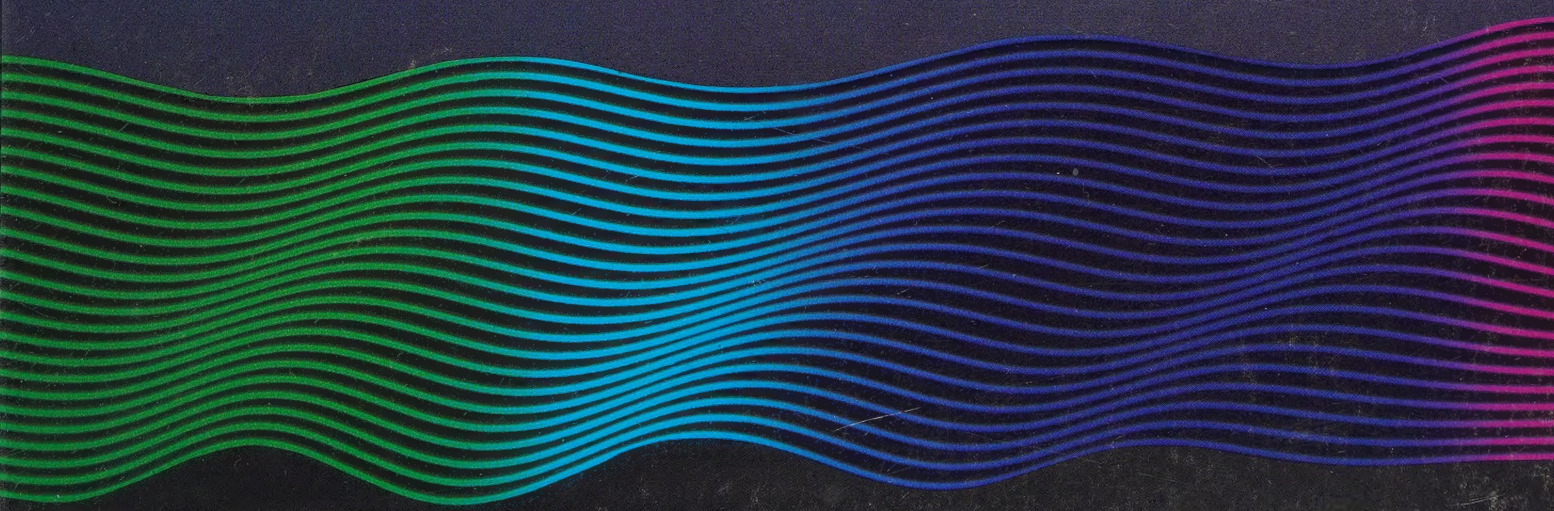
48 Cnd

Canadian Journal of Fisheries and Aquatic Sciences

Journal canadien des sciences halieutiques et aquatiques



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Editorial Policy

The *Journal* publishes original research articles, critical reviews, perspectives (essays of opinion or hypothesis), and comments. Papers may concern cells, organisms, populations, ecosystems, or processes that affect aquatic production systems, and they should lead to identifiable conclusions or syntheses, which variously may amplify, modify, question, or redirect accumulated knowledge embodied in contemporary perceptions of a particular state of fisheries and aquatic sciences. They should demonstrate clearly a contribution to knowledge beyond the confirmation state. Originality should relate to more than the particular (a certain year, place, taxon, or chemical compound) such that existing understanding is reformulated or extended.

It would assist the Editors if prospective authors identified briefly by covering letter (a) aspects of their papers that meet the foregoing objectives, (b) potential referees, and (c) other manuscripts contemplated or in press containing the same or similar information.

Submissions in English or French are acceptable. The information must be original, that is, not copyrighted, published, or submitted elsewhere except in abstract form or unless by written consent of the Editor. The *Journal* accepts no responsibility for statements made by contributors. The use of proprietary names does not imply endorsement of the product or company.

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Politique de rédaction

Le *Journal* publie des articles fondés sur une recherche originale, des critiques, des essais portant sur une opinion ou une hypothèse (perspectives) et des commentaires. Les textes peuvent avoir trait aux cellules, aux organismes, aux populations, aux écosystèmes ou aux processus qui influent sur les systèmes de production aquatique. Ils doivent aboutir à des conclusions ou synthèses précises qui, de diverses façons, peuvent accroître, modifier, remettre en question ou réorienter le bagage actuel des connaissances et perceptions dans une discipline donnée des sciences aquatiques. Ils doivent clairement démontrer qu'ils contribuent aux connaissances en faisant plus que corroborer des faits. L'originalité doit dépasser le caractère particulier (une année, un endroit, un taxon ou un composé chimique donné) et tenir à une épuration ou à une reformulation des connaissances actuelles.

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Guides

Le guide des auteurs et des secrétaires d'auteurs paraît dans la première livraison de chaque volume et est offert gratuitement par le *Journal*.

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Journal canadien des sciences halieutiques et aquatiques

Volume 48, Index 1991

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PREFACE/PRÉFACE

In 1968, the Fisheries Research Board of Canada published Bulletin 164, a subject-author index and list of its publications to 1964. Miscellaneous Special Publication 18, covering the period 1965 to 1972, was published in 1973. Between 1973 and 1976, annual subject-author indexes and lists of publications were published as separate issues of the Journal.

Since 1977, the annual index has contained a subject index, an author index, and a list of publications. Entries in the subject index consist of an entry term, a number of modifying terms, if required, and a taxonomic or common name and a geographic term, if appropriate. Entry terms and, wherever possible, modifying terms are selected from the *Aquatic sciences and fisheries thesaurus*, ASFIS Reference Series No. 6. However, it is sometimes necessary to use modifying terms not found in the *Thesaurus* to convey adequately all concepts. The principal authority for taxonomic and common names for Canadian and American marine and freshwater fishes is *A list of common and scientific names of fishes from the United States and Canada* (5th ed., 1991), Special Publication No. 20 of the American Fisheries Society; for mollusks *Common and scientific names of aquatic invertebrates from the United States and Canada*, Special Publication No. 16 of the American Fisheries Society (1988), and for decapod crustaceans *Common and scientific names of aquatic invertebrates from the United States and Canada*, Special Publication No. 17 of the American Fisheries Society (1989). Where authors have used names or spellings not conforming to those recommended, entry terms for such names are included, referring to the recommended names under which documents are indexed.

En 1968, l'Office des recherches sur les pêcheries du Canada publiait le bulletin no 164 qui constituait un index des matières et des auteurs, ainsi qu'une liste de ses publications jusqu'à 1964. Le no 18 des Publications diverses spéciales, visant la période de 1965 à 1972, a paru en 1973. Entre 1973 et 1976, on a publié chaque année un index des matières et des auteurs ainsi qu'une liste des publications dans un numéro distinct du Journal.

Depuis 1977, l'index annuel comprend un répertoire des matières et des auteurs et une liste des publications. Les notices de l'index des matières sont composées d'un terme d'entrée, d'un certain nombre de termes modificatifs si nécessaire, ainsi que d'une désignation taxonomique ou d'une appellation courante et d'un terme géographique au besoin. Les termes d'entrée et, dans la mesure du possible, les termes modificatifs sont choisis d'après l'*Aquatic sciences and fisheries thesaurus, no 6* de la série de référence d'ASFIS. Cependant, il est parfois nécessaire d'utiliser des termes modificatifs qu'on ne trouve pas dans le *Thesaurus* pour exprimer convenablement tous les concepts. Le principal ouvrage qui fasse autorité en ce qui concerne les appellations communes et taxonomiques des espèces de poisson d'eaux douces et marines des États-Unis et du Canada est intitulé *A list of common and scientific names of fishes from the United States and Canada* (5e édition, 1991), Special Publication No. 20 de l'American Fisheries Society ; les mollusques sont traités dans *Common and scientific names of aquatic invertebrates from the United States and Canada*, Special Publication No. 16 de l'American Fisheries Society (1988) et les crustacés décapodes dans *Common and scientific names of aquatic invertebrates from the United States and Canada*, Special Publication No. 17 de l'American Fisheries Society (1989). Quand un auteur utilise des désignations ou un orthographe différents des formes recommandées, on inclut les termes d'entrée pour ces noms en renvoyant aux noms recommandés sous lesquels les documents sont indexés.

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ABBREVIATIONS

Publications

J - Canadian Journal of Fisheries and Aquatic Sciences

SP - Canadian Special Publication of Fisheries and Aquatic Sciences

B - Canadian Bulletin of Fisheries and Aquatic Sciences

AR - Annual Report

TF - Canadian Technical Report of Fisheries and Aquatic Sciences

MF - Canadian Manuscript Report of Fisheries and Aquatic Sciences

DF - Canadian Data Report of Fisheries and Aquatic Sciences

IF - Canadian Industry Report of Fisheries and Aquatic Sciences

TH - Canadian Technical Report of Hydrography and Ocean Sciences

DH - Canadian Data Report of Hydrography and Ocean Sciences

CH - Canadian Contractor Report of Hydrography and Ocean Sciences

TS - Canadian Translation of Fisheries and Aquatic Sciences

EC - Economic and Commercial Analysis Report

R. - Reprinted

Rev. - Revised

F. - French

Geographic abbreviations

Alta. - Alberta	N.W.T. - Northwest Territories
B.C. - British Columbia	Ont. - Ontario
Man. - Manitoba	P.E.I. - Prince Edward Island
N.B. - New Brunswick	Que. - Quebec
Nfld. - Newfoundland	Sask. - Saskatchewan
N.S. - Nova Scotia	Yuk. - Yukon Territory

The names of states in the United States of America are abbreviated according to the *CBE Style Manual*.

Atl. - Atlantic	Pac. - Pacific
I. - Island	R. - River
L. - Lake	

Certain geographic areas have their major subdivisions designated by N(north), S(south), E(east), W(west), NW(northwest), NE(northeast), etc.

ABRÉVIATIONS

Publications

J - Journal canadien des sciences halieutiques et aquatiques

SP - Publication spéciale canadienne des sciences halieutiques et aquatiques

B - Bulletin canadien des sciences halieutiques et aquatiques

AR - Rapport annuel

TF - Rapport technique canadien des sciences halieutiques et aquatiques

MF - Rapport manuscrit canadien des sciences halieutiques et aquatiques

DF - Rapport statistique canadien des sciences halieutiques et aquatiques

IF - Rapport canadien à l'industrie sur les sciences halieutiques et aquatiques

TH - Rapport technique canadien sur l'hydrographie et les sciences océaniques

DH - Rapport statistique canadien sur l'hydrographie et les sciences océaniques

CH - Rapport canadien des entrepreneurs sur l'hydrographie et les sciences océaniques

TS - Traduction canadienne des sciences halieutiques et aquatiques

EC - Rapport de l'analyse économique et commerciale

R. - réimprimé

Rev. - révisé

F. - français

Abréviations de noms géographiques

Alta. - Alberta	N.W.T. - Territoires du Nord-Ouest
B.C. - Colombie-Britannique	Ont. - Ontario
Man. - Manitoba	P.E.I. - Île-du-Prince-Édouard
N.B. - Nouveau-Brunswick	Que. - Québec
Nfld. - Terre-Neuve	Sask. - Saskatchewan
N.S. - Nouvelle-Écosse	Yuk. - Territoire du Yukon

Les abréviations des noms des états des États-Unis sont tirées du *CBE Style Manual*.

Atl. - Atlantique	Pac. - Pacifique
I. - Île	R. - Rivière
L. - Lac	

Certaines régions géographiques ont leurs principales subdivisions indiquées de la façon suivante : N(nord), S(sud), E(est), W(ouest), NW(nord-ouest), NE(nord-est), etc.

LIST OF ESTABLISHMENTS

The number in front of each address corresponds to the number shown at the end of titles in some of the listed series of publications to indicate from which establishment the publication originated.

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Le chiffre placé devant chaque adresse correspond à celui qui figure à la fin des titres de certaines des séries de publications énumérées, pour indiquer d'où provient la publication.

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LIST OF THE PRINCIPAL INDEX TERMS USED IN THE SUBJECT INDEX/ LISTE DES PRINCIPAUX TERMES UTILISÉS DANS L'INDEX DES MATIÈRES

To reduce the size of the subject index, some specific concepts have been grouped together under more general index terms; these are listed in capital letters below. Publications dealing with fecundity, for example, are to be found under Population Dynamics.

Pour réduire l'espace occupé par l'index des matières, certains concepts ont été groupés sous des termes plus généraux ; ceux-ci sont inscrits en lettres majuscules ci-dessous. Par exemple, les publications traitant de fécondité seront classées sous "Population Dynamics".

Abundance (*see* DISTRIBUTION AND ABUNDANCE)

AGE AND GROWTH (Age determination; growth patterns and rates)

Age composition (*see* POPULATION STRUCTURE)

Annual reports (*see* INFORMATION SERVICES)

AQUACULTURE (Freshwater; Marine; Hatcheries)

BEHAVIOR

Bibliographies (*see* INFORMATION SERVICES)

Biochemistry (*see* PHYSIOLOGY AND BIOCHEMISTRY)

BIOGEOGRAPHY

Check lists (*see* INFORMATION SERVICES)

Competition (*see* PREDATION AND COMPETITION)

COMPUTER PROGRAMS AND DATA PROCESSING

CONFERENCES (Symposia; Workshops)

CRUISES (Fishery; Plankton; Oceanographic)

Data processing (*see* COMPUTER PROGRAMS AND DATA PROCESSING)

DISEASES AND PARASITES

DISTRIBUTION AND ABUNDANCE (Geographical; Vertical; Horizontal)

ECONOMICS AND SOCIOLOGY

EGGS AND LARVAE

ENVIRONMENTAL EFFECTS (Effects of environmental conditions on organisms and fisheries)

ENVIRONMENTAL IMPACT (Effects of man-induced environmental changes on organisms and fisheries)

Equipment (*see* METHODOLOGY AND TECHNIQUES)

Fecundity (*see* POPULATION DYNAMICS)

FISH HANDLING (Aquatic products and their handling)

Fishery surveys (*see* FISHERIES AND FISHABLE STOCKS)

FISHERIES AND FISHABLE STOCKS (Statistics; Sampling, Stock assessment; Management; Gear; Surveys)

FISHES (general)

Fishery cruises (*see* CRUISES)

Fishery management (*see* FISHERIES AND FISHABLE STOCKS

FOOD AND FEEDING (including feeding behavior)

Gear (*see* FISHERIES AND FISHABLE STOCKS)

Genera, new (*see* NEW GENERA)

GENETICS (Hybrids, Ploidy; Population)

Growth (*see* AGE AND GROWTH)

HABITAT

Hatcheries (*see* AQUACULTURE)

HISTORICAL ACCOUNT

Hydrology (*see* OCEANOGRAPHY AND LIMNOLOGY)

INFORMATION SERVICES (Annual reports; Bibliographies; Check lists; Manuals)

INTRODUCED SPECIES

Limnology (*see* OCEANOGRAPHY AND LIMNOLOGY)

Manuals (*see* INFORMATION SERVICES)

METEOROLOGY

METHODOLOGY AND TECHNIQUES (Laboratory methods; Analysis; Equipment)

MIGRATIONS AND TAGGING (including migratory behavior)

MODELS (Mathematical; Analytical)

MORPHOMETRY AND TAXONOMY

Mortality (*see* POPULATION DYNAMICS)

NAVIGATION

NEW GENERA

NEW RECORDS

NEW SPECIES

Nutrients (*see* OCEANOGRAPHY AND LIMNOLOGY)

OCEANOGRAPHY AND LIMNOLOGY (Physical; Chemical; Biological; Hydrology; Nutrients)

Oceanographic cruises (*see* CRUISES)

Parasites (*see* DISEASES AND PARASITES)

PHYSIOLOGY AND BIOCHEMISTRY (including metabolism)

PLANKTON (Nanno-; Phyto-; Zoo-)

Plankton cruises (*see* CRUISES)

POLLUTION (Pollutants; Pollution monitoring)

POPULATION DYNAMICS (Dynamical characteristics; Recruitment; Fecundity; Spawning; Sexual maturity; Mortality)

Population genetics (*see* GENETICS)

POPULATION STRUCTURE (Structural characteristics; Age composition, Weight, Body size)

PREDATION AND COMPETITION (including interspecific and intraspecific relationships)

PRODUCTION (Primary; Secondary)

Records, new (*see* NEW RECORDS)

Recruitment (*see* POPULATION DYNAMICS)

REPRODUCTION (Biology)

RESEARCH INSTITUTIONS

Sampling (*see* FISHERIES AND FISHABLE STOCKS)

Sexual maturity (*see* POPULATION DYNAMICS)

Sociology (*see* ECONOMICS AND SOCIOLOGY)

Spawning (*see* POPULATION DYNAMICS)

Species, new (*see* NEW SPECIES)

SPORT FISHING

Stock assessment (*see* FISHERIES AND FISHABLE STOCKS)

Symposia (*see* CONFERENCES)

Tagging (*see* MIGRATIONS AND TAGGING)

Taxonomy (*see* MORPHOLOGY AND TAXONOMY)

TOXICITY (Toxicants; Toxicity tests)

Workshops (*see* CONFERENCES)

A

ABALONE (=Ezoawabi) (*Haliotis discus hannai*)
TS 5526 (catchability, diving, Kisakata, Japan)

Abramis brama (*see* BREAM)

ACANTHOCEPHALA (*see also* names of species)
TF 1750 (parasites, helminths, flying squid, NE Pac.)

Acipenser fulvescens (*see* STURGEON, LAKE)
oxyrhynchus (*see* STURGEON, ATLANTIC)
spp. (*see* STURGEONS)

AFRICA
J 48(S1) : 8 (introduced species, ecological impact, genetics, fishery management)

AGE AND GROWTH
J 48(1) : 19 (growth, age determination, methodology, otoliths, brown trout)
: 35 (age determination, otoliths, weight, Australian pilchard)
(2) : 215 (growth, spiny scallop, reddish scallop, giant rock scallop, NE Pac.)
(3) : 391 (growth, bioenergetics, models, Pacific oyster, Marennes-Oléron Bay, France)
(4) : 555 (age determination, analytical errors, recruitment, population analysis)
: 569 (age composition, population dynamics, population structure, lake herring, L. Superior)
(6) : 1007 (age determination, methodology, bones, Arctic char, Wood R., AK)
: 1015 (biological age, sexual maturity, body size, brown trout, rivers, Norway)
: 1109 (growth, hybrids, aquaculture, juveniles, Arctic char)
(7) : 1193 (growth, toxicity, selenium compounds, algae)
: 1285 (growth, environmental effects, suspended sediments, softshell)
(8) : 1358 (growth, density dependence, larvae, southern bluefin tuna, East Indian Ocean)
: 1446 (age determination, length, sexual maturity, methodology, white sucker, Ont.)
: 1492 (growth, models, walleye, Oneida L., NY, L. Erie)
(9) : 1613 (age composition, population structure, models, red king crab, Bristol Bay, Bering Sea)
: 1662 (growth, biological stress, scale morphology, aquaculture, Nile tilapia)
(10) : 1838 (longevity, growth, body size, anadromous populations, brown trout)
: 1862 (growth, ultrastructure, otoliths, juveniles, winter flounder)
(11) : 2100 (growth, photoperiods, light effects, aquaculture, Atlantic salmon)
: 2109 (growth, mathematical analysis, shellfish, fishes)
: 2163 (length, photoperiods, water temperature, smolts, Atlantic salmon)
(12) : 2324 (age composition, size-frequency, population structure, virile crayfish, Experimental Lakes Area, NW Ont.)
: 2408 (growth, mooring buoys, blue mussel, Gulf of St. Lawrence, St. Lawrence R. estuary)
: 2436 (growth, tagging, handling, northern fur seal, Pribilof I., AK)
SP 113 : 261 (growth, comparative studies, sea scallop, S Gulf of St. Lawrence)
: 269 (growth, body size, biological age, American plaice, S Gulf of St. Lawrence)
B 224 : 59 (age, length-weight relationships, males, females, white whale, Hudson Bay, Canada)
: 141 (age determination, tooth growth, methodology, tetracycline, white whale)
TF 1767 (population structure, scale characteristics, juveniles, chinook salmon, Yukon R., Yuk.)
1828 (age determination, growth, methodology, white hake, Gulf of St. Lawrence)
MF 2086 (age determination, length, methodology, females, males, Pacific cod, NE Pac.)
DF 815 (Arctic char, Nauyuk L., N.W.T.)
819 (age composition, biological sampling, Pacific herring, NE Pac.)
TS 5528 (growth, aquaculture, juveniles, Japanese sea urchin, Hokkaido, Japan)

ALASKA STATE, USA
J 48(1) : 91 (fishery surveys, distribution, abundance, larvae, juveniles, walleye pollock, Shelikof Strait, Gulf of Alaska)
(3) : 442 (secondary production, trophodynamic cycle, detritus feeders, moose)
: 498 (predation, population density,

snails, lake trout)
(4) : 558 (predators, symbionts, eggs, red king crab)
(6) : 1007 (age determination, methodology, bones, Arctic char, Wood R.)
(9) : 1691 (stock assessment, echo surveys, spatial variations, walleye pollock, Shelikof Strait)
(12) : 2436 (tagging, handling, growth, northern fur seal, Pribilof I.)
B 224 : 39 (geographical distribution, abundance, migrations, white whale)
EC 66 (market research, economic analysis, snow crab, Tanner crab)

ALBACORE (*Thunnus alalunga*)
J 48(2) : 309 (species identification, DNA, polymers, NW Atl.)

Alces alces (*see* MOOSE)

ALEWIFE (*Alosa pseudoharengus*) (gaspereau)
J 48(5) : 909 (prey selection, Salmonidae, L. Michigan)
(11) : 2250 (migrations, geographical distribution, food availability, zooplankton, L. Ontario)
DF 829 (life history, biological data, Mactaquac Dam, N.B.)
842 (landing statistics, estuarine fisheries, Gulf of St. Lawrence)

Alexandrium (=*Gonyaulax* spp.) (*see* TOXICITY)

ALGAE
J 48(6) : 1092 (picoplankton, aggregations, oligotrophic lakes, Sproat L., B.C.)
(7) : 1193 (growth, motility, toxicity, selenium compounds)
: 1201 (physiology, ultrastructure, toxicity, selenium compounds)
(9) : 1629 (algal blooms, biological poisons, vertical distribution, *Oscillatoria agardhii*, L. Ostra Kyrksundet, Finland)
(12) : 2316 (biological poisons, fish kill, fjords, *Prymnesium parvum*, Atlantic salmon, Norway)
: 2395 (chlorophylls, growth, sea ice, Chesterfield Inlet, N.W.T.)
TF 1781 (conferences, taxonomy, morphology, diatoms, Arctic, Antarctica)
1796F (algal blooms, phytoplankton, toxicity, monitoring program, Gulf of St. Lawrence, St. Lawrence R. estuary)
DF 839 (production, phytoplankton, photosynthesis, Tuktoyaktuk Peninsula, Mackenzie delta, N.W.T.)
TS 5548 (photosynthesis, models)

Alosa aestivalis (*see* HERRING, BLUEBACK)
pseudoharengus (*see* ALEWIFE)
sapidissima (*see* SHAD, AMERICAN)

AMERICA
J 48(S1) : 24 (introduced species, ecological impact, fishery management, tropical America)

Amia calva (*see* BOWFIN)

ANGOLA
J 48(10) : 1887 (catchability, trawling, population analysis, cape hake)

Anguilla rostrata (*see* EEL, AMERICAN)

Anomura (*see* CRUSTACEA)

Anoplopoma fimbria (*see* SABLEFISH)

Anotopterus pharao (*see* DAGGERTOOTH)

ANTARCTICA
J 48(4) : 631 (environmental effects, temporal variations, population dynamics, crabeater seal, leopard seal, Weddell seal)
TF 1781 (conferences, taxonomy, morphology, diatoms)

Anthocidaris crassispina (*see* SEA URCHIN, [common Japanese])

Aplodinotus grunniens (*see* DRUM, FRESHWATER)

AQUACULTURE
J 48(2) : 183 (stocking density, trophodynamic cycle, food webs, Nile tilapia, Thailand)
: 248 (survival, brackishwater environment, inland water environment, coho salmon, Columbia R., OR)
(3) : 426 (escapement, cultured organisms, Atlantic salmon, Norway)
: 429 (chromatography, stock identification, astaxanthin, Atlantic salmon, Norway)
(5) : 945 (genetics, hazard assessment, cultured populations, natural populations, Salmonidae)
(6) : 1041 (physiology, environmental effects, water temperature, winter, Atlantic salmon)
: 1109 (growth, hybrids, juveniles, Arctic char)
(7) : 1188 (septicaemia, genomes, rainbow trout)
(9) : 1662 (growth, biological stress, scale morphology, Nile tilapia)
: 1744 (selective breeding, hybrids, pink salmon)
(11) : 2083 (salinity effects, growth, metabolism, juveniles, chinook salmon, rainbow trout)
: 2100 (growth, photoperiods, light effects, Atlantic salmon)
: 2163 (photoperiods, water

temperature, length, smolts, Atlantic salmon)
(12) : 2316 (biological poisons, fish kill, fjords, *Prymnesium parvum*, Atlantic salmon, Norway)
: 2377 (hatcheries, spawning, lake trout, Stony Island Reef, L. Ontario)
(S1) (introduced species, ecological impact, genetics, conferences, North America)
: 5 (introduced species, ecological impact, genetics, fishery management, World Waters)
: 8 (introduced species, ecological impact, genetics, fishery management, Africa)
: 110 (introduced species, disease control)
: 118 (introduced species, genetics, brown trout, rainbow trout, Ganaraska R., Ont.)
: 124 (introduced species, genetics, Pacific salmons, NW North America)
: 134 (introduced species, stocking organisms, evaluation, lake trout, L. Opeongo, Ont.)
: 148 (genetics, genotypes, selective breeding)
TF 1765 (transplantation, fingerlings, sterilization, coho salmon, Jasper L., Burnt-Out L., B.C.)
1789 (aquaculture techniques, genetics, triploids, conferences, females, Salmonidae)
: 1 (aquaculture techniques, sexual maturity, control, Salmonidae, Nfld.)
: 15 (aquaculture techniques, selective breeding, triploids, Atlantic salmon, Scotland)
: 37 (aquaculture techniques, sterilization, triploids, females, sockeye salmon, W Vancouver, B.C.)
: 47 (aquaculture techniques, triploids, control, females, Atlantic salmon, Tasmania)
: 73 (aquaculture techniques, physiology, triploids, Salmonidae)
: 81 (aquaculture techniques, triploids, sex-reversal, Atlantic salmon)
: 89 (aquaculture techniques, marketing, triploids, rainbow trout, Atlantic salmon, Nfld.)
: 97 (aquaculture techniques, triploids, control, Atlantic salmon)
: 101 (aquaculture techniques, sexual maturity, control, rainbow trout, Thamesford, Ont.)
: 111 (aquaculture techniques, selective breeding, polyploids, females, brook trout)
1805 (mollusc culture, computer simulation model)
1816 (production, hatcheries, chinook salmon, coho salmon, B.C.)
MF 2096 (aquaculture techniques, cage culture, chinook salmon, Squamish R., Vancouver I., B.C.)
2098 (manuals, entrainment, impingement, aquatic organisms, B.C.)
2117 (food organisms, prey selection, cages, Pacific salmons, Quadra I., B.C.)
IF 208 (brood stocks, polyploids, Atlantic salmon, Nfld.)
TS 5524 (rearing, fishery biology, Atlantic halibut, Norway)
5528 (growth, juveniles, Japanese sea urchin, Hokkaido, Japan)
5533 (seed production, costs, Japanese sea urchin, Hokkaido, Japan)
5544 (sperm, brood stocks, rainbow trout)
5549 (selective breeding, sexual maturity, males, rainbow trout)
EC 46 (aquaculture products, market research, economic analysis, Pacific salmons, Atlantic salmon, Canada)
67 (industrial production, production cost, potential growth, Canada)
70 (market research, cured products, Atlantic salmon, Pacific salmons, USA)
90 (economic analysis, Atlantic salmon, N.B.)
94 (economic analysis, aquaculture enterprises, financial management, Salmonidae, Canada)
95 (fishery economics, models, Atlantic salmon, chinook salmon, B.C.)
97 (aquaculture products, fishery economics, pricing, Atlantic salmon, Pacific salmons, Canada)

AQUATIC INSECTS
J 48(5) : 811 (biological drift, community composition, Ogeechee R., GA)
(8) : 1481 (pollution indicators, bioaccumulation, heavy metals, fresh water)
(11) : 2061 (phosphorus, mesocosm)
DF 827 (biomass, emergence, habitat, Fraser R. estuary, Campbell R. estuary, B.C.)

AQUATIC ORGANISMS
TF 1774(1) (toxicology, environmental monitoring, conferences, World Waters)
(2) (toxicology, environmental monitoring, conferences, World Waters)
1819 (underwater telemetry, bibliographies)
MF 2098 (manuals, entrainment, impingement, B.C.)

AQUATIC PLANTS
J 48(1) : 123 (habitat, feeding behavior,

controlled conditions, pumpkinseed)
(8) : 1539 (nutrient cycles, food webs, L. Ontario)
(10) : 1853 (environmental impact, introduced species, rusty crayfish, WI)
DF 827 (emergence, habitat, aquatic insects, Fraser R. estuary, Campbell R. estuary, B.C.)
839 (production, macrophytes, Tuktoyaktuk Peninsula, Mackenzie delta, N.W.T.)

ARCTIC
B 224 : 97 (avoidance reactions, ice breakers, white whale, narwhal, Lancaster Sound)
: 165 (pollution effects, bioaccumulation, chlorine compounds, white whale)
: 191 (pollution effects, bioaccumulation, heavy metals, selenium, white whale)
TF 1770 (conferences, marine ecosystems, Hudson Strait)
1781 (conferences, taxonomy, morphology, diatoms)
MF 2094 (fishery management, planning, monitoring systems)
DF 840 (feeding behavior, stomach content, benthos, fishes)
DH 95 (current meter data, water temperature, salinity, N Baffin Bay)

Argopecten spp. (*see* SCALLOPS)

Artemia salina (*see* SHRIMP, BRINE)

ASIA
J 48(S1) : 24 (introduced species, ecological impact, fishery management, tropical Asia)

AUSTRALIA
J 48(6) : 1077 (reproduction, oogenesis, spermatophores, *Boeckella*, *Calamoecia*)
(8) : 1431 (fecundity, seasonal variations, models, common tiger prawn, Torres Strait)
(S1) : 33 (introduced species, ecological impact, genetics, fishery management)

B

BACTERIA
J 48(3) : 421 (enzymolysis, toxicity tests, *Renibacterium salmoninarum*, rainbow trout)
(6) : 1092 (picoplankton, aggregations, oligotrophic lakes, Sproat L., B.C.)
(9) : 1629 (biological poisons, algal blooms, vertical distribution, *Oscillatoria agardhii*, L. Ostra Kyrksundet, Finland)
TS 5522 (lipids, polysaccharides, chemical properties, *Vibrio anguillarum*)
5531 (biological poisons, tetrodotoxins, public health)

Baffin Bay (*see* ARCTIC)

Baffin Island (*see* NORTHWEST TERRITORIES)

BALTIC SEA
J 48(7) : 1181 (environmental effects, water temperature, pollution, European perch)

BARENTS SEA
J 48(11) : 2180 (feeding behavior, summer, harp seal)

BASS, LARGEMOUTH (*Micropterus salmoides*)
J 48(9) : 1704 (interspecific relationships, competition, feeding behavior, rainbow trout, Peter L., Paul L., MI)

BASS, LARGEMOUTH [Florida] (*Micropterus salmoides floridanus*)
J 48(S1) : 58 (introduced species, genetics, reproduction, FL)

BASS, SMALLMOUTH (*Micropterus dolomieui*)
J 48(5) : 933 (models, digestion, stomach content, chinook salmon, coho salmon)
(8) : 1476 (survival, abiotic factors, biotic factors, larvae, Baron Fork, OK)

BASS, STRIPED (*Morone saxatilis*)
DF 842 (landing statistics, estuarine fisheries, Gulf of St. Lawrence)

BEAUFORT SEA
DH 60(6) (oceanographic data, summer)
80 (oceanographic data, cruises, S Beaufort Sea)
97 (cruises, oceanographic data)
101F (chemical oceanography, sediments, pore water)
CH 35 (temperature, salinity, sea ice, annual variations)

BEHAVIOR
J 48(1) : 53 (orientation behavior, rheotaxis, rivers, lakes, Arctic grayling, MT)
(2) : 243 (avoidance reactions, predation, natural populations, cultured populations, steelhead trout)
(4) : 583 (swimming, bioenergetics, rainbow trout)
: 672 (environmental effects, winter, white perch, yellow perch)
(5) : 849 (avoidance reactions, habitat selection, predation, fishes, Sacramento squawfish, Eel R., CA)

: 857 (interspecific relationships, distribution, feeding behavior, brook trout, white sucker, Mastigouche Reserve, Que.)
: 938 (homing behavior, chemoreception, olfaction, brook trout, Queen's R., RI, Angeline Brook, MA)
(6) : 995 (spawning behavior, echo surveys, powan, Constance L., FRG)
: 1081 (schooling behavior, models, skipjack tuna)
(12) : 2471 (parental behavior, lactation, ringed seal, Arctic)
B 224 : 69 (territoriality, white whale, Nastapoka estuary, Hudson Bay, Canada)
: 97 (avoidance reactions, ice breakers, white whale, narwhal, Lancaster Sound, Arctic)
: 119 (echolocation, comparative studies, white whale, bottlenose dolphin)
MF 2091 (circadian rhythms, population structure, echo surveys, widow rockfish, redstripe rockfish, yellowmouth rockfish, off N Vancouver I., B.C.)

Beluga (*Delphinapterus leucas*) (*see* WHALE, WHITE)

BENTHOS
J 48(2) : 222 (pollution effects, heavy metals, Blackfoot R., MT)
(5) : 923 (bacterioplankton, production, L. Michigan, L. Superior)
(8) : 1558 (abundance, community composition, pollution effects, macroinvertebrates, L. Ontario)
(10) : 1926 (biological drift, stream flow rate, Invertebrata, Colorado R., CO)
(11) : 2276 (food webs, pelagic environment, enclosures)
DF 840 (feeding behavior, stomach content, fishes, Arctic)
DH 92 (geographical distribution, check lists, Invertebrata, Burrard Inlet, NE Pac.)

BERING SEA
J 48(9) : 1613 (population structure, age composition, models, red king crab, Bristol Bay)
TS 5520 (parasites, check lists, Greenland halibut)

BIVALVIA
SP 112 (check lists, distribution records, biogeography, E Pac.)

BLACK SEA
TS 5547 (fecundity, eggs, sperm, mullets)

Blackcod (*see* SABLEFISH)

BLOATER (*Coregonus hoyi*)
J 48(5) : 909 (prey selection, Salmonidae, L. Michigan)

BLUEGILL (*Lepomis macrochirus*)
J 48(5) : 768 (environmental impact, nuclear power plants, population dynamics, feeding behavior, Savannah R., SC)

Boeckella (*see* CRUSTACEA)

BOTHNIA, GULF OF
J 48(1) : 28 (pollution effects, pulp wastes, population dynamics, European perch)

BOWFIN (*Amia calva*)
J 48(4) : 611 (metabolism, enzyme activity, lipids)

Brachyura (*see* CRUSTACEA)

BREAM (*Abramis brama*)
J 48(1) : 7 (feeding behavior, filter feeders, models)

BRITISH COLUMBIA (PROVINCE), CANADA (*see also* NORTHEAST PACIFIC OCEAN)
J 48(1) : 67 (vertical migrations, diurnal variations, acoustic surveys, kokanee, opossum shrimp, Okanagan L.)
(3) : 493 (lethal limits, suspended sediments, temperature effects, coho salmon, Fraser R.)
(4) : 526 (harvesting, resource conservation, numerical analysis, sockeye salmon, Adams R.)
: 661 (phenotypes, seasonal variations, ecotypes, chum salmon, Vancouver I.)
(5) : 757 (local movements, seasonal variations, spatial variations, cutthroat trout, Musqueam Creek)
(6) : 988 (survival, body size, smolts, sockeye salmon, Chilko L.)
: 1092 (picoplankton, aggregations, oligotrophic lakes, Sproat L.)
(7) : 1226 (nutrients, phosphorus, nitrogen, Sproat L.)
: 1250 (abundance, migrations, Pacific lamprey, Fraser R.)
: 1264 (echo surveys, species diversity, rockfishes, Vancouver I.)
(8) : 1364 (habitat selection, habitat preferences, seasonal variations, cutthroat trout, Musqueam Creek)
(11) : 2118 (feeding behavior, prey selection, food availability, Pacific hake, spiny dogfish, Vancouver I.)
: 2240 (recruitment, models, Pacific cod, Hecate Strait)
(12) : 2365 (stock identification,

multivariate analysis, body size, age composition, Pacific herring)
TF 1502 (fishery management, commercial trolling, Pacific salmons, S B.C.)
1692 (environmental impact, bridges, habitat, fishes)
1722 (fishery surveys, stock assessment, coho salmon, SE Vancouver I.)
1756 (habitat, utilization, distribution, sockeye salmon, Quesnel L.)
1758 (fishery surveys, escapement, tagging, sockeye salmon, Henderson L., Vancouver I.)
1759 (geographical distribution, abundance, feeding behavior, chinook salmon, coho salmon, SW Vancouver I.)
1765 (transplantation, fingerlings, sterilization, coho salmon, Jasper L., Burnt-Out L.)
1769 (local movements, predation, harbor seal, Steller sea lion, California sea lion, Pacific salmons, Comox Harbour, Cowichan Bay)
1780 (morphology, stock identification, population genetics, coho salmon, Keogh R.)
1789 : 37 (aquaculture techniques, sterilization, triploids, females, sockeye salmon, W Vancouver)
1815 (fishery management, escapement, fishways, chinook salmon, Stamp R.)
1816 (production, hatcheries, chinook salmon, coho salmon)
MF 1824 (limnology, dissolved oxygen, water quality, Pacific salmons, Fraser R.)
2012 (oceanographic data, fishery surveys, Pacific hake, sablefish, spiny dogfish, Pacific herring, SW coast Vancouver I.)
2019(1) (spawning grounds, distribution records, historical account, Pacific herring, Queen Charlotte Is.)
(6) (spawning grounds, geographical distribution, historical account, Pacific herring, W coast Vancouver I.)
2067 (fishery surveys, fishways, escapement, Pacific salmons, Somass R.)
2068 (stock assessment, tagging, escapement, coho salmon, Salmon R.)
2070 (fishery surveys, fishery management, clam fisheries, butter clam, Pacific littleneck, Japanese littleneck, Vancouver I.)
2074 (fishery surveys, population number, escapement, chinook salmon, Kitsumkalum R.)
2079 (stock assessment, tagging, escapement, coho salmon, Salmon R.)
2085 (stock assessment, escapement, mortality, chinook salmon, Harrison R.)
2088 (fecundity, approximation, Pacific cod, off Vancouver I.)
2091 (behavior, population structure, echo surveys, widow rockfish, redstripe rockfish, yellowmouth rockfish, off N Vancouver I.)
2093(1) (environmental impact, hydroelectric power plants, anadromous species, Pacific salmons)
2096 (aquaculture techniques, cage culture, chinook salmon, Squamish R., Vancouver I.)
2098 (manuals, entrainment, impingement, aquatic organisms)
2100 (artificial reefs, structure, habitat, macroinvertebrates, fishes, French Creek)
2107 (fishery management, catch statistics, stock assessment, chum salmon, Johnstone Strait, Fraser R.)
2111 (fishery surveys, escapement, chinook salmon, Harrison R.)
2114 (stock assessment, tagging, escapement, survival, coho salmon, Salmon R.)
2116 (fishery surveys, habitat selection, research programs, coho salmon)
2117 (food organisms, prey selection, cages, Pacific salmons, Quadra I.)
2124 (tagging, stock assessment, escapement, Campbell R., Quinsam R.)
DF 523 (water quality, water currents, migrations, coho salmon, Quinsam Watershed)
524 (water quality, water currents, migrations, coho salmon, Quinsam Watershed)
788 (fishery surveys, counting fence, Pacific salmons, Babine R.)
792 (fishery surveys, counting fence, Pacific salmons, Babine R.)
806 (limnological data, oligotrophic lakes)
807 (fishery surveys, catch statistics, cruises, ocean shrimp, Vancouver I.)
808 (fishery surveys, catch statistics, cruises, ocean shrimp, Vancouver I.)
810 (echo surveys, escapement, sockeye salmon, Rivers Inlet)
812 (tagging, traps, smolts, coho salmon, Lachmach R.)
813 (catch statistics, purse seines, geographical distribution, juveviles, sockeye salmon, Alberni Inlet, Barkley Sound)
820 (fishery surveys, biomass, ocean shrimp, Vancouver I.)
823 (fishery surveys, fishways, stock assessment, Pacific salmons, Meziadin R., Nass R.)
824 (biological data, sampling, tagging, coho salmon, Lachmach R.)
825 (stock assessment, catch statistics, trawling, sockeye salmon, Fraser R.)
827 (biomass, emergence, habitat, aquatic insects, Fraser R. estuary, Campbell R. estuary)
830 (stock assessment, fish counters, autumn, coho salmon, Lachmach R.)

832 (stock assessment, fish counters, spring, smolts, Lachmach R.)
835 (experimental fishing, gillnets, catch statistics, Pacific salmons, Nass R.)
836 (catch statistics, food fish, Indian fishery, Pacific salmons, sturgeons, Fraser R.)
837 (catch statistics, biological data, juveniles, Pacific salmons, Queen Charlotte Is., Vancouver I.)
843 (fishery surveys, fish counters, escapement, sockeye salmon, Docee R.)
IF 205 (fishery management, stock assessment, roe fisheries, Pacific herring)
207 (stock assessment, roe fisheries, human food, bait, Pacific herring)
DH 76 (distribution, oceanographic data, zooplankton, Barkley Sound, Vancouver I.)
EC 95 (fishery economics, aquaculture, models, Atlantic salmon, chinook salmon)

Buccinum undatum (*see* WHELK, WAVED)

BULLHEAD, BROWN (*Ictalurus nebulosus*)
J 48(9) : 1804 (pollution effects, aromatic hydrocarbons, sediments, tumors, L. Michigan, L. Erie)

C

Calamoecia (*see* CRUSTACEA)

Calanus finmarchicus (*see* CRUSTACEA)

CALIFORNIA STATE, USA
J 48(1) : 99 (viral diseases, RNA, salmonids, N CA)
(5) : 849 (avoidance reactions, habitat selection, predation, fishes, Sacramento squawfish, Eel R.)
(12) : 2296 (primary production, environmental effects, coastal upwelling, Pacific sardine, S CA)

Callorhinus ursinus (*see* SEAL, NORTHERN FUR)

CANADA (*see also* PROVINCES; *also* TERRITORIES)
J 48(4) : 599 (acidification, pollution effects, models, lakes, E Canada)
(10) : 1909 (primary production, prediction, morphoedaphic index, freshwater lakes)
(S1) : 46 (introduced species, environmental impact, historical account)
: 156 (introduced species, legislation, fishery policy, governments)
MF 2105 (fishery management, historical account)
EC 46 (market research, economic analysis, aquaculture products, Pacific salmons, Atlantic salmon)
66 (market research, economic analysis, snow crab, Tanner crab)
67 (aquaculture, industrial production, production cost, potential growth)
71 (fishing industry, financing, governments)
94 (economic analysis, aquaculture enterprises, financial management, Salmonidae)
97 (fishery economics, aquaculture products, pricing, Atlantic salmon, Pacific salmons)
98 (market research, economic analysis, capelin)

Cancer irroratus (*see* CRAB, ATLANTIC ROCK)
spp. (*see* CRAB, ROCK)

CAPELIN (*Mallotus villosus*)
J 48(11) : 2040 (stock identification, electrophoresis, morphology, Gulf of St. Lawrence, St. Lawrence R. estuary)
: 2228 (pollution effects, crude oil, sediments, incubation, Conception Bay, Nfld.)
EC 98 (market research, economic analysis, Canada)

Caprella septentrionalis (*see* SHRIMP, GHOST)

CARCINONEMERTES REGICIDES (Nemertea)
J 48(4) : 558 (predators, symbionts, eggs, red king crab, AK)

Catostomus commersoni (*see* SUCKER, WHITE)

CENTRAL PACIFIC OCEAN
J 48(6) : 1104 (stock identification, parasites, *Nanophyetus salmincola*, steelhead trout)

CESTODA (tapeworms)
TF 1750 (parasites, helminths, flying squid, NE Pac.)

Chaleur, Bay of (*see* ST. LAWRENCE, GULF OF)

CHAR, ARCTIC (*Salvelinus alpinus*) (Arctic charr)
J 48(6) : 1007 (age determination, methodology, bones, Wood R., AK)
: 1109 (aquaculture, growth, hybrids, juveniles)
(8) : 1437 (genetics, hybrids, brook trout, N Labrador)
TF 1775 (bibliographies)
MF 2120 (fishery surveys, commercial fishing, potential yield, Koukdjuak R., Nettilling L., N.W.T.)
DF 815 (population dynamics, migrations, Nauyuk L., N.W.T.)
828 (fishery surveys, stock assessment,

biological data, Salmon R., Baffin I., N.W.T.)
848 (catch statistics, stock assessment, commercial fishing, Cambridge Bay, Keewatin, Igloolik, N.W.T.)
851 (sport fishing statistics, biological data, angling, Freshwater Creek, N.W.T.)

CHAR, WHITE-SPOTTED (*Salvelinus leucomaenis*)
TF 1775 (bibliographies)

Charr, Artic (*see* CHAR, ARCTIC)

Chionoecetes bairdi (*see* CRAB, TANNER)
opilio (*see* CRAB, SNOW)

Chironomidae (*see* DIPTERA)

Chlamys hastata (*see* SCALLOP, SPINY)
islandica (*see* SCALLOP, ICELAND) (*Pecten islandicus*)
rubida (*see* SCALLOP, REDDISH)

CHONDRICHTHYES
SP 113 : 241 (geographical distribution, seasonal variations, skates, SE Gulf of St. Lawrence)

Cisco (*see* HERRING, LAKE)

CISCO, ARCTIC (*Coregonus autumnalis*)
DF 847 (catch statistics, sampling, gillnets, Mackenzie R. estuary, N.W.T.)

CLAM, BUTTER (*Saxidomus giganteus*)
MF 2070 (fishery surveys, fishery management, Vancouver I., B.C.)

Clam, littleneck (*Protothaca staminea*) (*see* LITTLENECK, PACICIC)

Clam, Manila (*Tapes philippinarum*) (*see* LITTLENECK, JAPANESE)

Clam, softshell (*Mya arenaria*) (*see* SOFTSHELL)

CLAM FISHERIES
MF 2070 (fishery surveys, fishery management, Vancouver I., B.C.)

Clinostomus funduloides (*see* DACE, ROSYSIDE)

Clupea harengus harengus (*see* HERRING, ATLANTIC)
harengus pallasi (*see* HERRING, PACIFIC) (*Clupea pallasi*)

COD, ATLANTIC (*Gadus morhua*) (Baltic cod)
J 48(1) : 48 (stock identification, DNA, PCR, Norway, Nfld.)
(5) : 824 (environmental effects, water temperature, feeding behavior)
: 843 (biomass, range, catchability, Gulf of St. Lawrence)
(6) : 1003 (recruitment, biotic factors, abiotic factors, NW Atl.)
(8) : 1350 (recruitment, prediction, vertebrae counts, NW Atl.)
(9) : 1623 (parasitism, tissues, sealworm)
(12) : 2333 (fecundity, atresia, ovaries)
TF 1782 (gear selectivity, mesh selectivity, trap nets, Nfld.)
1795F (landing statistics, environmental factors, winds, Gulf of St. Lawrence)

COD, PACIFIC (*Gadus macrocephalus*)
J 48(11) : 2240 (recruitment, models, Hecate Strait, NE Pac.)
MF 2086 (methodology, age determination, length, females, males, NE Pac.)
2088 (fecundity, approximation, off Vancouver I., B.C.)

COLORADO STATE, USA
J 48(10) : 1926 (biological drift, stream flow rate, benthos, Invertebrata, Colorado R.)
(12) : 2477 (environmental impact, impoundments, stream flow, macroinvertebrates, Granby Reservoir)

COMPUTER PROGRAMS AND DATA PROCESSING
TF 1753 (stock assessment, mixed-stock fishery)
1783 (FORTRAN, fishery data, trawling)
1812 (stream flow, measurement, Renous R., N.B.)
1818F (fishery management, fishery surveys, trawling)
DF 818 (chemical speciation, metals, fresh water)

CONFERENCES
J 48(S1) (introduced species, ecological impact, genetics, fishery management, North America)
SP 113 (oceanography, fishery biology, estuarine dynamics, Gulf of St. Lawrence)
TF 1770 (marine ecosystems, Hudson Strait)
1774(1) (toxicology, aquatic environment, environmental monitoring, World Waters)
(2) (toxicology, aquatic environment, environmental monitoring, World Waters)
1781 (taxonomy, morphology, diatoms, Arctic, Antarctica)
1789 (aquaculture techniques, genetics, triploids, females, Salmonidae)
IF 206 (habitat, research, Gulf of St. Lawrence)

Contracaecum aduncum (*see* NEMATODA)
micropapillatum (*see* NEMATODA)
spp. (*see* NEMATODA)

Copepoda (*see* CRUSTACEA)

COREGONIDAE
DF 849 (catch statistics, trap nets, life history, Anderson R. estuary, N.W.T.)

Coregonus albula (*see* VENDACE)
artedii (*see* HERRING, LAKE) (cisco)
autumnalis (*see* CISCO, ARCTIC)
clupeaformis (*see* WHITEFISH, LAKE)
hoyi (*see* BLOATER)
huntsmani (*see* WHITEFISH, ATLANTIC)
lavaretus (*see* POWAN)
nasus (*see* WHITEFISH, BROAD)

CORRECTIONS
J 48(2) : 338 (to J 47(11) : 2202
(12) : 2366
: 2368)
(8) : 1602 (to J 45(1) : 107
47(1) : 164)

CRAB, ARCTIC LYRE (*Hyas coarctatus*)
TF 1762 (taxonomy, morphology, larvae, N Atl.)

CRAB, ATLANTIC LYRE (*Hyas araneus*) (toad crab)
TF 1762 (taxonomy, morphology, population dynamics, larvae, controlled conditions)

CRAB, ATLANTIC ROCK (*Cancer irroratus*)
TF 1773F (trap nets, yield, gear selectivity, Bay of Chaleur, Gulf of St. Lawrence)

CRAB, RED KING (*Paralithodes camtschaticus*) (Alaska king crab)
J 48(4) : 559 (predators, eggs, symbionts, nemerteans, AK)
(9) : 1613 (population structure, age composition, models, Bristol Bay, Bering Sea)

CRAB, ROCK (*Cancer* spp.)
J 48(2) : 267 (fecundity, reproduction, N Atl., N Pac.)

CRAB, SNOW (*Chionoecetes opilio*) (queen crab; spider crab)
J 48(7) : 1167 (migrations, tagging, males, Gulf of St. Lawrence)
(11) : 2266 (moulting, males)
TF 1762 (taxonomy, morphology, population dynamics, larvae, controlled conditions)
1817 (population dynamics, recruitment, population structure, Bonne Bay, Nfld.)
TS 5537 (horizontal distribution, size distribution, carapace, Sea of Japan)
EC 66 (market research, economic analysis, Canada, AK)

CRAB, TANNER (*Chionoecetes bairdi*)
EC 66 (market research, economic analysis, Canada, AK)

CRAPPIE, BLACK (*Pomoxis nigromaculatus*)
J 48(10) : 1919 (feeding behavior, prey selection, larvae, L. Mendota, WI)

Crassedoma giganteum (*see* SCALLOP, GIANT ROCK)

Crassostrea gigas (*see* OYSTER, PACIFIC)
virginica (*see* OYSTER, AMERICAN)

CRAYFISH (*Orconectes* spp.)
J 48(10) : 1853 (environmental impact, introduced species, rusty crayfish, WI)

CRAYFISH, RUSTY (*Orconectes rusticus*)
J 48(10) : 1853 (introduced species, environmental impact, aquatic plants, crayfish, snails, WI)

CRAYFISH, VIRILE (*Orconectes virilis*)
J 48(12) : 2324 (age composition, size-frequency, population structure, Experimental Lakes Area, NW Ont.)

CRUISES (*see also* FISHERIES AND FISHABLE STOCKS)
MF 2012 (F/V *Caledonian*, fishery surveys, oceanographic data, Pacific hake, sablefish, spiny dogfish, Pacific herring, SW coast Vancouver I., B.C.)
2091 (*W.E. Ricker*, echo surveys, behavior, population structure, rockfishes, off N Vancouver I., B.C.)
2108 (*W.E. Ricker* cruise 90HER2, echo surveys, stock assessment, Pacific herring, Hecate Strait, NE Pac.)
DF 807 (F.V. *Sharlene K.*, fishery surveys, catch statistics, ocean shrimp, Vancouver I., B.C.)
808 (*W.E. Ricker*, fishery surveys, catch statistics, ocean shrimp, Vancouver I., B.C.)
820 (*W.E. Ricker*, fishery surveys, biomass, ocean shrimp, Vancouver I., B.C.)
DH 80 (CCGS *Sir John Franklin*, oceanographic data, S Beaufort Sea)
97 (*Henry Larsen*, oceanographic data, Beaufort Sea)

CRUSTACEA (*see also* names of species)
J 48(2) : 303 (mesh selectivity, biological sampling, catch/effort, *Calanus finmarchicus*, Flemish Cap, NW Atl.)
(3) : 364 (environmental effects, clutch size, reproduction, *Diaptomus*, lakes, Que.)
(6) : 1055 (chronic toxicity, bioaccumulation, cadmium, fresh water, *Hyallela azteca*)
: 1077 (reproduction, ooogenesis, spermatophores, *Boeckella*, *Calamoecia*, Australia)
(8) : 1431 (fecundity, seasonal variations, models, common tiger prawn, Torres Strait, Australia)
(12) : 2385 (enzymatic activity, body size, correlation analysis)
SP 113 : 231 (environmental effects,

digestive enzymes, fecundity, *Calanus finmarchicus*, Gulf of St. Lawrence)
TF 1771 (taxonomy, morphology, geographical distribution, Anomura, Brachyura, NW Atl.)
TS 5535 (hosts, parasites, *Contracaecum micropapillatum*, Agrakhan Gulf, White Sea)
5542 (parasites, isopods, *Contracaecum aduncum, Iaera albifrons ischioseta*)

Cynoscion nebulosus (*see* SEATROUT, SPOTTED)

CYPRINIDAE (*see also* names of species)
J 48(2) : 261 (bioaccumulation, chemical pollutants, habitat, St. Clair R., Detroit R., Ont.)

D

DACE, ROSYSIDE (*Clinostomus funduloides*)
J 48(7) : 1235 (competition, microhabitat, rainbow trout, Coweeta Creek, NC)

DAGGERTOOTH (*Anotopterus pharao*)
J 48(12) : 2403 (predators, mortality, injuries, Pacific salmons, N Pac.)

DARTER, BLACKBANDED (*Percina nigrofasciata*)
J 48(4) : 681 (interspecific relationships, prey selection, feeding behavior, dusky darter, freckled darter, Black Creek, MS)

DARTER, DUSKY (*Percina sciera*)
J 48(4) : 681 (interspecific relationships, prey selection, feeding behavior, blackbanded darter, freckled darter, Black Creek, MS)

DARTER, FRECKLED (*Percina lenticula*)
J 48(4) : 681 (interspecific relationships, prey selection, feeding behavior, blackbanded darter, dusky darter, Black Creek, MS)

Delphinapterus leucas (*see* WHALE, WHITE) (beluga)

DENMARK
TS 5538 (boil disease, vibriosis, redmouth disease, vaccination, rainbow trout)

Diaptomus spp. (*see* CRUSTACEA)

Diatoms (*see* ALGAE)

DIPTERA (two-winged insects)
J 48(6) : 975 (paleoclimate, water temperature, indicator species, Chironomidae, lakes, Labrador)
(7) : 1151 (pollution indicators, abnormalities, ligulae, antennae, *Procladius*)

DISEASES AND PARASITES
J 48(1) : 99 (viral diseases, RNA, N CA)
(3) : 421 (enzymolysis, toxicity tests, *Renibacterium salmoninarum*, rainbow trout)
(6) : 1104 (parasites, stock identification, *Nanophyetus salmincola*, steelhead trout, Central Pac.)
(7) : 1188 (septicaemia, genomes, aquaculture, rainbow trout)
(9) : 1623 (parasitism, tissues, Atlantic cod, rainbow trout, sealworm)
: 1800 (biochemical analysis, proteins, larvae, sealworm, NW Atl.)
: 1804 (tumors, pollution effects, aromatic hydrocarbons, sediments, walleye, brown bullhead, L. Michigan, L. Erie)
(S1) : 110 (introduced species, disease control, aquaculture)
SP 113 : 153 (paralytic shellfish poison, transport processes, surface circulation, Gulf of St. Lawrence)
TF 1750 (parasites, helminths, flying squid, NE Pac.)
1772 (parasites, bibliographic information, *Polypodium hydriforme*, lake sturgeon)
1777 (parasites, yellowtail rockfish, Cape Scott, Destruction I., NE Pac.)
TS 5520 (parasites, check lists, Greenland halibut, Labrador Sea, Bering Sea)
5534 (parasites, hosts, *Contracaecum*, ghost shrimp, White Sea)
5535 (parasites, hosts, life cycle, *Contracaecum micropapillatum*, Copepoda, Agrakhan Gulf, White Sea)
5538 (boil disease, vibriosis, redmouth disease, vaccination, rainbow trout, Denmark)
5539 (boil disease, vaccination, disease control, Salmonidae, Norway)
5540 (taxonomy, morphology, parasites, Spirurata)
5542 (parasites, *Contracaecum aduncum*, *Iaera albifrons ischioseta*)

DISTRIBUTION AND ABUNDANCE
J 48(1) : 2 (population number, fishery surveys, catch/effort, juveniles, Atlantic salmon, Labrador Sea)
: 91 (fishery surveys, larvae, juveniles, walleye pollock, Shelikof Strait, Gulf of Alaska, AK)
(2) : 276 (narwhal, Hudson Bay, Canada)
(4) : 536 (competition, ruffe, European perch, Sweden)
: 591 (abundance, length frequency, models, northern pink shrimp, Gulf of Maine, NW Atl.)
: 619 (fishery management, yield predictions, models, lakes)
: 631 (population dynamics, environmental effects, temporal variations, crabeater seal, leopard seal, Weddell seal, Antarctica)
: 694 (vertical distribution, size distribution, check lists, fishes,

Sargasso Sea)
(5) : 832 (distribution records, trawling, catch statistics, sea lamprey, NW Atl.)
: 843 (biomass, range, catchability, Atlantic cod, Gulf of St. Lawrence)
: 857 (geographical distribution, interspecific relationships, brook trout, white sucker, Mastigouche Reserve, Que.)
: 894 (abundance, echo surveys, plankton feeders, L. Michigan)
(6) : 960 (geographical distribution, biological poisons, *Nitzschia pungens*, NE Pac.)
(7) : 1250 (abundance, migrations, Pacific lamprey, Fraser R., B.C.)
(8) : 1381 (distribution records, dispersal, introduced species, zebra mussel, Great Lakes, North America)
: 1389 (geographical distribution, introduced species, prediction, zebra mussel, North America)
: 1546 (abundance, community composition, zooplankton, L. Ontario)
: 1558 (abundance, community composition, pollution effects, macroinvertebrates, L. Ontario)
(9) : 1629 (vertical distribution, algal blooms, biological poisons, *Oscillatoria agardhii*, L. Ostra Kyrksundet, Finland)
: 1679 (geographical distribution, population structure, morphology, threespine stickleback, blackspotted stickleback, New York Bight, NW Atl.)
(11) : 2095 (spatial variations, catch statistics, body size, cape hake, deepwater hake, Namibia)
: 2184 (temporal distribution, spatial variations, mathematical analysis, macroinvertebrates, Padden Creek, WA)
: 2191 (distribution records, sympatric species, Dolly Varden, bull trout, North America)
: 2250 (geographical distribution, food availability, zooplankton, alewife, L. Ontario)
SP 112 (distribution records, Bivalvia, E Pac.)
113 : 241 (geographical distribution, seasonal variations, demersal fishes, skates, SE Gulf of St. Lawrence)
B 224 : 23 (aerial surveys, white whale, NW Polar Seas)
: 39 (migrations, white whale, AK)
: 69 (abundance, territoriality, population structure, white whale, Nastapoka estuary, Hudson Bay, Canada)
TF 1745 (fishery surveys, stock assessment, demersal fishes, Hecate Strait, NE Pac.)
1756 (distribution, habitat, utilization, sockeye salmon, Quesnel L., B.C.)
1759 (chinook salmon, coho salmon, SW Vancouver I., B.C.)
1771 (geographical distribution, Anomura, Brachyura, NW Atl.)
MF 2019(1) (distribution records, spawning grounds, historical account, Pacific herring, Queen Charlotte Is., B.C.)
(6) (geographical distribution, spawning grounds, historical account, Pacific herring, W coast Vancouver I., B.C.)
DF 813 (catch statistics, purse seines, juveniles, sockeye salmon, Alberni Inlet, Barkley Sound, B.C.)
819 (geographical distribution, biological sampling, Pacific herring, NE Pac.)
820 (biomass, fishery surveys, ocean shrimp, Vancouver I., B.C.)
DH 76 (zooplankton, Barkley Sound, Vancouver I., B.C.)
92 (geographical distribution, check lists, benthos, Invertebrata, Burrard Inlet, NE Pac.)
TS 5537 (horizontal distribution, size distribution, carapace, snow crab, Sea of Japan)
5541 (distribution, chemical pollution, aromatic hydrocarbons, Kitakyusho, Japan)

DNA (Deoxyribonucleic acid) (*see* GENETICS; *see also* PHYSIOLOGY AND BIOCHEMISTRY)

DOGFISH, SPINY (*Squalus acanthias*)
J 48(11) : 2118 (feeding behavior, prey selection, food availability, Vancouver I., B.C.)
MF 2012 (fishery surveys, biological data, SW coast Vancouver I., B.C.)

DOLLY VARDEN (*Salvelinus malma*)
J 48(11) : 2191 (taxonomy, distribution records, sympatric species, bull trout, North America)
TF 1775 (bibliographies)

DOLPHIN, BOTTLENOSE (*Tursiops truncatus*)
B 224 : 81 (tags, marking, skin)
: 119 (echolocation, comparative studies)

Dreissena polymorpha (*see* MUSSEL, ZEBRA)

DRUM, FRESHWATER (*Aplodinotus grunniens*)
J 48(10) : 1919 (feeding behavior, prey selection, larvae, L. Mendota, WI)

E

EAST INDIAN OCEAN
J 48(8) : 1358 (growth, density dependence, larvae, southern bluefin tuna)

ECONOMICS AND SOCIOLOGY
J 48(8) : 1595 (sociological aspects, sport fishing, economic analysis, L. Ontario)
TF 1789 : 89 (marketing, triploids, rainbow trout, Atlantic salmon, Nfld.)
MF 2105 (sociological aspects, fishery management, historical account, Canada)
TS 5533 (seed production, aquaculture, costs, Japanese sea urchin, Hokkaido, Japan)
EC 46 (market research, economic analysis, aquaculture products, Pacific salmons, Atlantic salmon, Canada)
66 (market research, economic analysis, snow crab, Tanner crab, Canada, AK)
67 (aquaculture, industrial production, production cost, potential growth, Canada)
70 (market research, cured products, Atlantic salmon, Pacific salmons, USA)
71 (fishing industry, financing, governments, Canada)
73 (market research, consumers, American lobster, USA)
74 (market research, cost analysis, commercial availability, American lobster, USA)
89 (market research, fishery economics, trade, bluefin tuna, NW Atl.)
90 (economic analysis, commercial fishing, aquaculture, sport fishing, Atlantic salmon, N.B.)
91 (fishery economics, cost analysis, pricing, American lobster, Maritime Provinces)
92(1) (labour, fishery industry plants, fishplant closures, Lockeport, Port Mouton, N.S.)
(2) (labour, fishery industry plants, fishplant closures, Lockeport, Port Mouton, N.S.)
94 (economic analysis, aquaculture enterprises, financial management, Salmonidae, Canada)
95 (fishery economics, aquaculture, models, Atlantic salmon, chinook salmon, B.C.)
97 (fishery economics, aquaculture products, pricing, Atlantic salmon, Pacific salmons, Canada)
98 (market research, economic analysis, capelin, Canada)
99 (economic analysis, purse seining, Atlantic herring, Nfld.)
102 (economic analysis, fishing gear, fishing vessels, demersal fisheries, Gulf of St. Lawrence)
103F (fishing vessels, performance assessment, cost analysis, Scotia-Fundy Region, NW Atl.)
109 (fishery economics, pricing, American lobster, Scotia-Fundy Region, NW Atl.)

EEL, AMERICAN (*Anguilla rostrata*)
DF 842 (landing statistics, estuarine fisheries, Gulf of St. Lawrence)

EGGS AND LARVAE (*see also* names of species)
J 48(1) : 91 (fishery surveys, distribution, abundance, walleye pollock, Shelikof Strait, Gulf of Alaska, AK)
(3) : 448 (larvae, survival, models, Atlantic herring, ME)
(4) : 559 (eggs, predators, symbionts, nemerteans, red king crab, AK)
(8) : 1358 (larvae, growth, density dependence, southern bluefin tuna, East Indian Ocean)
: 1476 (larvae, survival, abiotic factors, biotic factors, smallmouth bass, Baron Fork, OK)
(9) : 1713 (larvae, mortality, recruitment, annual variations, Pacific sardine, California Current, NE Pac.)
(12) : 2333 (fecundity, atresia, ovaries, Atlantic cod)
: 2377 (spawning, hatcheries, lake trout, Stony Island Reef, L. Ontario)
DF 821 (eggs, fishery surveys, predation, Pacific herring, Lambert Channel, Strait of Georgia, NE Pac.)
TS 5547 (eggs, fecundity, mullets, Black Sea)

ENVIRONMENTAL EFFECTS
J 48(1) : 152 (temperature profiles, water circulation, ice canopy, Wupaw Bay, Southern Indian L., Man.)
(2) : 164 (temperature effects, osmoregulation, juveniles, Atlantic salmon)
: 196 (debris flow, ecological crisis, cutthroat trout, Quartz Creek, OR)
(3) : 364 (clutch size, reproduction, *Diaptomus*, lakes, Que.)
: 493 (temperature effects, suspended sediments, lethal limits, coho salmon, Fraser R., B.C.)
: 503 (temperature effects, life history, marine fishes)
(4) : 546 (buffers, population dynamics, freshwater fishes, Sweden)
: 623 (ocean circulation, annual variations, fishery management, models, sockeye salmon, NE Pac.)
: 631 (temporal variations, population dynamics, crabeater seal, leopard seal, Weddell seal, Antarctica)
: 661 (seasonal variations,

phenotypes, ecotypes, chum salmon, Vancouver I., B.C.)
: 672 (winter, population dynamics, white perch, yellow perch)
(5) : 824 (water temperature, feeding behavior, Atlantic cod)
(6) : 1041 (water temperature, winter, physiology, Atlantic salmon)
: 1117 (salinity, enzymatic activity, metabolism, American oyster)
: 1124 (hyperoxia, controlled conditions, *Nephelopsis obscura*, *Erpobdella punctata*)
(7) : 1176 (water temperature, light, emergence, grayling)
: 1181 (water temperature, pollution, population structure, European perch, Baltic Sea)
: 1212 (water temperature, acclimation, enzymatic activity, gulf toadfish)
: 1285 (suspended sediments, growth, physiology, softshell)
(8) : 1408 (water temperature, temperature preferences, catchability, freshwater fishes, L. St. Clair, Ont.)
: 1476 (abiotic factors, biotic factors, survival, larvae, smallmouth bass, Baron Fork, OK)
(9) : 1792 (winterkill, reproduction, pumpkinseed, Leeds Co., Ont.)
(10) : 1944 (swimming, juveniles, American lobster)
(11) : 2073 (water temperature, yield predictions, models, American lobster, N.S., N.B., ME)
: 2083 (salinity effects, growth, metabolism, juveniles, chinook salmon, rainbow trout)
(12) : 2355 (flooding, macroinvertebrates, Delta Marsh, Man.)
: 2991 (temperature effects, predation, feeding behavior, Pacific salmons, northern squawfish, Columbia R., WA)
SP 113 : 161 (climate, hydrography, recruitment, American lobster, Gulf of St. Lawrence)
: 179 (winds, runoff, landing statistics, American lobster, Gulf of St. Lawrence)
: 231 (storms, digestive enzymes, fecundity, *Calanus finmarchicus*, Gulf of St. Lawrence)
TF 1774(1) (toxicants, aquatic environment, environmental monitoring, conferences, World Waters)
(2) (toxicants, aquatic environment, environmental monitoring, conferences, World Waters)
1795F (environmental factors, winds, landing statistics, Atlantic cod, Gulf of St. Lawrence)
1808F (environmental monitoring, community composition, marine fishes, St. Lawrence R. estuary)
DH 90 (water temperature, oceanographic data, time series, Nfld.)
93 (water temperature, oceanographic data, time series, Gulf of St. Lawrence, Scotia-Fundy Region, NW Atl.)

ENVIRONMENTAL IMPACT
J 48(5) : 768 (nuclear power plants, population dynamics, feeding behavior, bluegill, Savannah R., SC)
(6) : 968 (environment management, biological stress, ecosystems, fresh water)
(10) : 1853 (introduced species, aquatic plants, snails, crayfish, rusty crayfish, WI)
(12) : 2449 (mercury, bioaccumulation, yellow perch, spottail shiner, lake whitefish, northern pike, walleye, reservoirs, Man.)
: 2477 (impoundments, stream flow, macroinvertebrates, Granby Reservoir, CO)
: 2499 (forest industry, debris flow, rivers, WA)
(S1) : 46 (introduced species, historical account, North America, Canada)
: 162 (environmental protection, introduced species, legislation, governments, USA)
TF 1692 (bridges, habitat, fishes, B.C.)
1787 (oil and gas industry, fisheries, Grand Bank, NW Atl.)
MF 2093(1) (hydroelectric power plants, anadromous species, Pacific salmons, B.C.)

EPHEMEROPTERA (mayflies)
J 48(7) : 1220 (acidification, tolerance, gills)

ERIE, LAKE, NORTH AMERICA
J 48(6) : 1100 (food consumption, daily ration, bias, models, yellow perch)
(8) : 1492 (growth, models, walleye)
: 1581 (wetlands, resource conservation, limnological data)
(9) : 1804 (pollution effects, aromatic hydrocarbons, sediments, tumors, walleye, brown bullhead)
(11) : 2051 (feeding behavior, cannibalism, zooplankton, zebra mussel)
(12) : 2420 (gear selectivity, gillnets, bias, models, walleye)

ERPOBDELLA PUNCTATA (erpobdella leeches)
J 48(6) : 1124 (hyperoxia, environmental effects, population dynamics, controlled conditions)

Esox lucius (*see* PIKE, NORTHERN) (great northern pike)

Eumetopias jubatus (*see* SEA LION, STELLER)

EUROPE
J 48(S1) : 13 (introduced species, exotic species, native species, historical account)

Euthynnus pelamis (*see* TUNA, SKIPJACK)

EXPERIMENTAL LAKES AREA, NORTHWESTERN ONTARIO
J 48(6) : 1022 (phytoplankton, acidification, species diversity)
(12) : 2324 (population structure, age composition, size-frequency, virile crayfish)
DF 816 (acidification, fertilization, trace metals)

Ezoawabi (*see* ABALONE)

F

FINLAND
J 48(9) : 1629 (biological poisons, algal blooms, vertical distribution, *Oscillatoria agardhii*, L. Ostra Kyrksundet)

FISH HANDLING
EC 70 (market research, cured products, Atlantic salmon, Pacific salmons, USA)
92(1) (labour, fishery industry plants, fishplant closures, Lockeport, Port Mouton, N.S.)
(2) (labour, fishery industry plants, fishplant closures, Lockeport, Port Mouton, N.S.)

FISHERIES AND FISHABLE STOCKS
J 48(1) : 2 (fishery surveys, catch/effort, population number, juveniles, Atlantic salmon, Labrador Sea)
: 48 (stock identification, DNA, PCR, Atlantic cod, Norway, Nfld.)
: 91 (fishery surveys, distribution, abundance, larvae, juveniles, walleye pollock, Shelikof Strait, Gulf of Alaska, AK)
(3) : 340 (echo surveys, backscatter, zooplankton, Scotian Shelf, NW Atl.)
: 448 (recruitment, survival, models, Atlantic herring, ME)
: 487 (gear selectivity, gillnets, models, spotted seatrout, LA)
(4) : 526 (harvesting, resource conservation, numerical analysis, sockeye salmon, Adams R., B.C.)
: 555 (recruitment, age determination, analytical errors, population analysis)
: 591 (length frequency, abundance, models, northern pink shrimp, Gulf of Maine, NW Atl.)
: 619 (fishery management, yield predictions, models, lakes)
: 722 (population genetics, evaluation, fishery management)
(5) : 734 (exploitation, life history, potential yield, demersal fishes)
: 751 (trap fishing, local movements, tagging, waved whelk)
: 784 (trap nets, design, evaluation, spot shrimp, Saanich Inlet, NE Pac.)
: 792 (stock identification, electrophoresis, Spanish sardine, E Gulf of Mexico)
: 832 (fishery surveys, trawling, distribution records, sea lamprey, NW Atl.)
: 843 (biomass, range, catchability, Atlantic cod, Gulf of St. Lawrence)
: 868 (natural populations, acidosis, lactacidosis, Atlantic salmon)
(6) : 1081 (schooling behavior, models, skipjack tuna)
(7) : 1264 (echo surveys, species diversity, rockfishes, Vancouver I., B.C.)
: 1273 (stock assessment, methodology, models, yellowtail flounder, NW Atl.)
: 1326 (fish habitat, water quality, regional planning, Puget Sound, NE Pac.)
(9) : 1613 (population structure, age composition, models, red king crab, Bristol Bay, Bering Sea)
: 1691 (stock assessment, echo surveys, spatial variations, walleye pollock, Shelikof Strait, AK)
: 1772 (models, stock assessment, sound reflection, demersal fisheries)
(10) : 1887 (catchability, trawling, population analysis, cape hake, Namibia, Angola)
: 1937 (fishery management, morphoedaphic index, potential yield)
(11) : 2073 (water temperature, yield predictions, models, American lobster, N.S., N.B., ME)
: 2095 (catch statistics, spatial variations, body size, cape hake, deepwater hake, Namibia)
: 2129 (biological sampling, errors, yield predictions, models)
: 2228 (pollution effects, crude oil, sediments, incubation, capelin, Conception Bay, Nfld.)
: 2240 (recruitment, models, Pacific cod, Hecate Strait, NE Pac.)
: 2266 (moulting, males, snow crab)
(12) : 2296 (environmental effects, coastal upwelling, recruitment, Pacific sardine, S CA)
: 2365 (stock identification, multivariate analysis, body size, age composition, Pacific herring, B.C.)
: 2420 (gear selectivity, gillnets, bias, models, walleye, L. Erie)

: 2523 (acidification, biomass, production, fishes, lakes, Ont.)
: 2533 (analysis, potential yield, harvesting, models)
(S1) : (introduced species, ecological impact, genetics, conferences, North America)
: 5 (introduced species, ecological impact, aquaculture, World Waters)
: 8 (introduced species, ecological impact, genetics, fishery management, Africa)
: 24 (introduced species, ecological impact, fishery management, tropical America, tropical Asia)
: 33 (introduced species, ecological impact, genetics, fishery management, Australia)
: 178 (introduced species, resource conservation, fishery management)
SP 113 : (fishery biology, estuarine dynamics, Gulf of St. Lawrence)
: 125 (fishery resources, commercial fishing, fishery biology, Gulf of St. Lawrence)
: 161 (environmental effects, climate, hydrography, recruitment, American lobster, Gulf of St. Lawrence)
: 179 (landing statistics, environmental effects, winds, runoff, American lobster, Gulf of St. Lawrence)
: 241 (geographical distribution, seasonal variations, demersal fishes, skates, SE Gulf of St. Lawrence)
: 293 (fishery surveys, commercial fisheries, rivers, estuaries, bays, Gulf of St. Lawrence)
: 303 (population characteristics, stock identification, fishery management, Atlantic salmon, Gulf of St. Lawrence)
114 (population dynamics, fishery biology, fishermen, pack ice, harp seal, World Oceans)
TF 1502 (fishery management, commercial trolling, Pacific salmons, S B.C.)
1722 (fishery surveys, stock assessment, tagging, coho salmon, SE Vancouver I., B.C.)
1745 (fishery surveys, distribution, abundance, demersal fishes, Hecate Strait, NE Pac.)
1753 (computer programs, stock assessment, mixed-stock fishery)
1758 (fishery surveys, escapements, tagging, sockeye salmon, Henderson L., Vancouver I., B.C.)
1773F (trap nets, yield, gear selectivity, Atlantic rock crab, American lobster, Bay of Chaleur, Gulf of St. Lawrence)
1778 (stock assessment, fishery management, demersal fishes, NE Pac.)
1779 (catch statistics, catch/effort, demersal fishes, NE Pac.)
1782 (gear selectivity, mesh selectivity, trap nets, Atlantic cod, Nfld.)
1783 (computer programs, FORTRAN, fishery data, trawling)
1787 (environmental impact, oil and gas industry, Grand Bank, NW Atl.)
1790 (sport fishing, exploitation, tagging, Atlantic salmon, Miramichi R., N.B.)
1791 (manuals, data collections, escapement, Pacific salmons, NE Pac.)
1795F (landing statistics, environmental factors, winds, Atlantic cod, Gulf of St. Lawrence)
1804 (catch statistics, catch/effort, historical account, sea scallop, Gulf of St. Lawrence)
1810F (resource conservation, habitat improvement, vulnerability, commercial species, Gulf of St. Lawrence)
1815 (fishery management, escapement, fishways, chinook salmon, Stamp R., B.C.)
1818F (fishery management, fishery surveys, trawling, computer programs)
1820 (identification keys, body size, conversion tables, tunas, NW Atl.)
MF 2012 (fishery surveys, biological data, Pacific hake, sablefish, spiny dogfish, Pacific herring, SW coast Vancouver I., B.C.)
2019(1) (spawning grounds, distribution records, historical account, Pacific herring, Queen Charlotte Is., B.C.)
(6) (spawning grounds, geographical distribution, historical account, Pacific herring, W coast Vancouver I., B.C.)
2024 (fishery management, landing statistics, escapement, pink salmon, sockeye salmon, Johnstone Strait, NE Pac.)
2062 (catch statistics, total mortality, seining, chinook salmon, Johnstone Strait, Sabine Channel, Strait of Juan de Fuca, NE Pac.)
2067 (fishery surveys, fishways, escapement, Pacific salmons, Somass R., B.C.)
2068 (stock assessment, tagging, escapement, coho salmon, Salmon R., B.C.)
2069 (catch statistics, harvesting, catch/effort, rockfishes, NE Pac.)
2070 (fishery surveys, fishery management, clam fisheries, butter clam, Pacific littleneck, Japanese littleneck, Vancouver I., B.C.)
2074 (fishery surveys, population number, escapement, chinook salmon, Kitsumkalum R., B.C.)
2079 (stock assessment, tagging,

escapement, coho salmon, Salmon R., B.C.)
2080 (sample size, trawling, evaluation, Pacific ocean perch, NE Pac.)
2085 (stock assessment, escapement, mortality, chinook salmon, Harrison R., B.C.)
2091 (echo surveys, behavior, population structure, widow rockfish, redstripe rockfish, yellowmouth rockfish, off N Vancouver I., B.C.)
2094 (fishery management, planning, monitoring systems, Arctic)
2102 (fishery management, trolling, landing statistics, Pacific salmons, NE Pac.)
2105 (fishery management, historical account, Canada)
2107 (fishery management, catch statistics, stock assessment, chum salmon, Johnstone Strait, NE Pac., Fraser R., B.C.)
2108 (echo surveys, stock assessment, cruises, Pacific herring, Hecate Strait, NE Pac.)
2111 (fishery surveys, escapement, chinook salmon, Harrison R., B.C.)
2112 (stock assessment, catch statistics, escapement, pink salmon, Johnstone Strait, NE Pac.)
2113 (stock assessment, echo surveys, algorithms, marine fishes)
2114 (stock assessment, tagging, escapement, survival, coho salmon, Salmon R., B.C.)
2116 (fishery surveys, habitat selection, research programs, coho salmon, B.C.)
2120 (fishery surveys, commercial fishing, potential yield, Arctic char, Koukdjuak R., Nettilling L., N.W.T.)
2124 (stock assessment, tagging, escapement, chinook salmon, Campbell R., Quinsam R., B.C.)
DF 788 (fishery surveys, counting fence, Pacific salmons, Babine R., B.C.)
792 (fishery surveys, counting fence, Pacific salmons, Babine R., B.C.)
807 (fishery surveys, catch statistics, cruises, ocean shrimp, Vancouver I., B.C.)
808 (fishery surveys, catch statistics, cruises, ocean shrimp, Vancouver I., B.C.)
810 (echo surveys, escapement, sockeye salmon, Rivers Inlet, B.C.)
813 (catch statistics, purse seines, juveniles, sockeye salmon, Alberni Inlet, Barkley Sound, B.C.)
815 (fishery surveys, biological data, migrations, Arctic char, Nauyuk L., N.W.T.)
817 (fishery surveys, catch statistics, catch/effort, lake trout, Prelude L., Prosperous L., N.W.T.)
820 (fishery surveys, biomass, ocean shrimp, Vancouver I., B.C.)
821 (fishery surveys, eggs, predation, Pacific herring, Lambert Channel, Strait of Georgia, NE Pac.)
823 (fishery surveys, fishways, stock assessment, Pacific salmons, Meziadin R., Nass R., B.C.)
825 (stock assessment, catch statistics, trawling, sockeye salmon, Fraser R., B.C.)
828 (fishery surveys, stock assessment, biological data, Arctic char, Salmon R., Baffin I., N.W.T.)
830 (stock assessment, fish counters, autumn, coho salmon, Lachmach R., B.C.)
832 (stock assessment, fish counters, spring, smolts, Lachmach R., B.C.)
835 (experimental fishing, gillnets, catch statistics, Pacific salmons, Nass R., B.C.)
836 (catch statistics, food fish, Indian fishery, Pacific salmons, sturgeons, Fraser R., B.C.)
837 (catch statistics, biological data, juveniles, Pacific salmons, Queen Charlotte Is., Vancouver I., B.C.)
838 (catch statistics, commercial fishing, fishery management, Atlantic salmon, Nfld., Labrador)
841 (stock identification, proteins, chum salmon, NE Pac.)
842 (landing statistics, estuarine fisheries, Gulf of St. Lawrence)
843 (fishery surveys, fish counters, escapement, sockeye salmon, Docee R., B.C.)
847 (catch statistics, sampling, gillnets, Mackenzie R. estuary, N.W.T.)
848 (catch statistics, stock assessment, commercial fishing, Arctic char, Cambridge Bay, Keewatin, Igloolik, N.W.T.)
849 (catch statistics, trap nets, life history, Coregonidae, Anderson R. estuary, N.W.T.)
IF 205 (fishery management, stock assessment, roe fisheries, Pacific herring, B.C.)
207 (stock assessment, roe fisheries, human food, bait, Pacific herring, B.C.)
210 (landing statistics, catch/effort, Atlantic mackerel, Dingwall, Cape Breton I., N.S.)
TS 5523 (catch statistics, food availability, predation, Japanese flying squid, NW Pac.)
5526 (catchability, diving, abalone, Kisakata, Japan)
5529 (processing fishery products, scallops)
5530 (scallop fisheries, fishery technology, processed fishery

products, Iceland scallop, Norway)
5532 (catching methods, fishing gear, sea urchins, Hokkaido, Japan)
EC 71 (fishing industry, financing, governments, Canada)
90 (economic analysis, commercial fishing, aquaculture, sport fishing, Atlantic salmon, N.B.)
92(1) (labour, fishery industry plants, fishplant closures, Lockeport, Port Mouton, N.S.)
(2) (labour, fishery industry plants, fishplant closures, Lockeport, Port Mouton, N.S.)
99 (economic analysis, purse seining, Atlantic herring, Nfld.)
102 (economic analysis, fishing gear, fishing vessels, demersal fisheries, Gulf of St. Lawrence)

FISHES
J 48(2) : 290 (hydroacoustics, range detection, controlled conditions)
: 318 (chemical pollutants, bioaccumulation, models, freshwater fishes)
(3) : 356 (trophic levels, food chains, L. St. George, Haynes L., Ont.)
: 503 (temperature effects, body size, life history, marine fishes)
(4) : 546 (buffers, environmental effects, population dynamics, lakes, Sweden)
: 694 (check lists, size distribution, vertical distribution, Sargasso Sea)
(5) : 734 (exploitation, life history, potential yield, demersal fishes)
: 832 (distribution records, trawling, catch statistics, sea lamprey, NW Atl.)
: 894 (echo surveys, abundance, body size, plankton feeders, L. Michigan)
(8) : 1408 (temperature preferences, water temperature, catchability, freshwater fishes, L. St. Clair, Ont.)
(10) : 1820 (recruitment, variability, body size, marine fishes, temperate zones)
(11) : 2109 (growth, mathematical analysis)
: 2173 (stock identification, genomes, methodology)
(12) : 2523 (acidification, biomass, production, lakes, Ont.)
SP 113 : 241 (geographical distribution, seasonal variations, demersal fishes, SE Gulf of St. Lawrence)
TF 1692 (environmental impact, bridges, habitat, B.C.)
1745 (fishery surveys, distribution, abundance, demersal fishes, Hecate Strait, NE Pac.)
1786 (habitat improvement, methodology, manuals, freshwater fishes, N.B.)
1808F (community composition, environmental monitoring, marine fishes, St. Lawrence R. estuary)
2087 (sport fishing statistics, creel surveys, Pacific salmons, demersal fishes, Strait of Georgia, NE Pac.)
2089F (habitat, biological properties, physical properties, lagoons, Bay of Chaleur, Gulf of St. Lawrence)
2100 (check lists, artificial reefs, French Creek, B.C.)
2113 (stock assessment, echo surveys, algorithms, marine fishes)
DF 813 (catch statistics, purse seines, geographical distribution, Alberni Inlet, Barkley Sound, B.C.)
814 (habitat, ground water, hydrology, Kouchibouguac R., N.B., Wilmot R., P.E.I., Ste. Genevieve R., Nfld.)
840 (feeding behavior, stomach content, benthos, Arctic)

FLORIDA STATE, USA
J 48(7) : 1145 (primary production, phytoplankton, latitude, water color, lakes)
(S1) : 58 (introduced species, genetics, reproduction, largemouth bass)

FLOUNDER, WINTER (*Pleuronectes americanus*) (*Pseudopleuronectes americanus*)
J 48(10) : 1862 (otoliths, growth, ultrastructure, juveniles)

FLOUNDER, YELLOWTAIL (*Pleuronectes ferrugineus*) (*Limanda ferruginea*)
J 48(7) : 1273 (stock assessment, methodology, models, NW Atl.)

FOOD AND FEEDING
J 48(1) : 7 (feeding behavior, filter feeders, models, bream)
: 105 (food webs, biomass, pelagic environment, L. Michigan)
: 123 (feeding behavior, aquatic plants, habitat, controlled conditions, pumpkinseed)
(2) : 183 (food webs, trophodynamic cycle, stocking density, aquaculture, Nile tilapia, Thailand)
: 222 (food webs, pollution effects, heavy metals, Blackfoot R., MT)
: 243 (forage fish, predation, natural populations, cultured populations, steelhead trout)
(3) : 356 (trophic levels, food chains, zooplankton, freshwater fishes, L. St. George, Haynes L., Ont.)
: 429 (chromatography, stock identification, astaxanthin, Atlantic salmon, Norway)
: 434 (food consumption, bioenergetics, models, juveniles, walleye)
: 442 (detritus feeders, trophodynamic cycle, secondary production, moose, Monument Creek, AK)
(4) : 536 (feeding behavior, competition,

ruffe, European perch, Sweden)
: 607 (feeding behavior, prey selection, interspecific relationships, white perch, yellow perch)
: 681 (feeding behavior, interspecific relationships, prey selection, blackbanded darter, dusky darter, freckled darter, Black Creek, MS)
(5) : 768 (environmental impact, nuclear power plants, bluegill, Savannah R., SC)
: 776 (trophic relationships, detritus feeders, ecosystems)
: 824 (feeding behavior, environmental effects, Atlantic cod)
: 857 (feeding behavior, interspecific relationships, brook trout, white sucker, Mastigouche Reserve, Que.)
: 909 (feeding behavior, prey selection, alewife, bloater, Salmonidae, L. Michigan)
(6) : 1100 (food consumption, daily ration, bias, models, yellow perch, L. Erie)
(8) : 1419 (feeding behavior, predation, Medusae, zooplankton, Bedford Basin, N.S.)
: 1539 (food webs, nutrient cycles, aquatic plants, L. Ontario)
: 1574 (food webs, nutrients, habitat improvement, L. Ontario)
(9) : 1704 (interspecific relationships, competition, largemouth bass, rainbow trout, Peter L., Paul L., MI)
: 1735 (feeding behavior, prey selection, brook trout, lakes, Laurentian Shield, Que.)
(10) : 1846 (food webs, acidification, zooplankton, lakes, NH, NY, PA)
: 1896 (feeding behavior, ontogeny, juveniles, Atlantic salmon)
: 1919 (feeding behavior, prey selection, larvae, yellow perch, freshwater drum, black crappie, L. Mendota, WI)
(11) : 2051 (feeding behavior, cannibalism, zooplankton, zebra mussel, L. Erie)
: 2118 (feeding behavior, prey selection, food availability, Pacific hake, spiny dogfish, Vancouver I., B.C.)
: 2180 (feeding behavior, summer, harp seal, Barents Sea)
: 2258 (isotopes, indicators, trophic levels, lake whitefish, broad whitefish, Mackenzie R. basin, N.W.T.)
: 2276 (food webs, pelagic environment, enclosures, benthos)
(12) : 2307 (food availability, zooplankton, habitat, niches, powan, vendace, L. Mjosa, Norway)
SP 113 : 99 (food webs, plankton, pelagic environment, estuarine dynamics, Gulf of St. Lawrence)
: 277 (food consumption, models, predation, seabirds, Gulf of St. Lawrence)
TF 1759 (chinook salmon, coho salmon, SW Vancouver I., B.C.)
MF 2117 (food organisms, prey selection, cages, Quadra I., B.C.)
DF 840 (feeding behavior, stomach content, benthos, fishes, Arctic)
TS 5523 (food availability, Japanese flying squid, NW Pac.)

FRANCE
J 48(3) : 391 (growth, bioenergetics, models, Pacific oyster, Marennes-Oléron Bay)

Fundy, Bay of (*see* NORTHWEST ATLANTIC OCEAN)

G

Gadus macrocephalus (*see* COD, PACIFIC)
morhua (*see* COD, ATLANTIC)

Gambusia holbrooki (*see* MOSQUITOFISH, EASTERN)

Gaspereau (*see* ALEWIFE)

Gasterosteus aculeatus (*see* STICKLEBACK, THREESPINE)
wheatlandi (*see* STICKLEBACK, BLACKSPOTTED)

GASTROPODA (snails)
J 48(10) : 1853 (environmental impact, introduced species, rusty crayfish, WI)

GENETICS
J 48(1) : 48 (stock identification, DNA, PCR, Atlantic cod, Norway, Nfld.)
: 53 (rheotaxis, orientation behavior, rivers, lakes, Arctic grayling, MT)
(2) : 170 (biopolymorphism, transplantation, Atlantic salmon, Esva R., Spain)
: 296 (stock identification, otoliths, models, Atlantic mackerel, NW Atl., North Sea)
: 309 (species identification, DNA, polymers, bluefin tuna, bigeye tuna, yellowfin tuna, albacore, NW Atl.)
(4) : 577 (stock identification, DNA, anadromous species, nonanadromous species, Atlantic salmon, Gambo R., Nfld.)
: 640 (stock identification, electrophoresis, methodology, deepwater redfish, Acadian redfish, Gulf of St. Lawrence)
: 661 (phenotypes, seasonal variations, ecotypes, chum salmon,

Vancouver I., B.C.)
: 722 (population genetics, evaluation, fishery management)
(5) : 792 (stock identification, electrophoresis, Spanish sardine, E Gulf of Mexico)
: 884 (stock identification, DNA, Atlantic salmon, North America, Greenland, NW Atl.)
: 945 (aquaculture, hazard assessment, cultured populations, natural populations, Salmonidae)
(6) : 1104 (stock identification, parasites, *Nanophyetus salmincola*, steelhead trout, Central Pac.)
: 1109 (aquaculture, growth, hybrids, juveniles, Arctic char)
(7) : 1188 (genomes, septicaemia, aquaculture, rainbow trout)
: 1308 (phenotypes, enzymatic activity, rainbow trout, Lower Laurentian Great Lakes, North America)
(8) : 1396 (stock identification, electrophoresis, evaluation, pink salmon)
: 1437 (hybrids, Arctic char, brook trout, N Labrador)
(9) : 1606 (sex determination, DNA, chromosomes, chinook salmon)
: 1655 (stock identification, RNA, ribosomes, Atlantic salmon)
: 1724 (stock identification, DNA, cell organelles, American shad, Canada, USA, NW Atl.)
: 1744 (selective breeding, hybrids, pink salmon)
: 1761 (physiology, biological stress, challenge tests, coho salmon)
: 1783 (natural populations, cultured populations, morphology, coho salmon)
: 1800 (biochemical analysis, proteins, larvae, sealworm, NW Atl.)
(11) : 2040 (stock identification, electrophoresis, capelin, Gulf of St. Lawrence, St. Lawrence R. estuary)
: 2152 (phenotypic variations, zygotes, body size, brook trout, Mykiss L., Ont.)
: 2173 (stock identification, genomes, methodology, fishes)
(12) : 2365 (stock identification, multivariate analysis, body size, age composition, Pacific herring, B.C.)
(S1) (introduced species, ecological impact, fishery management, conferences, North America)
: 5 (introduced species, ecological impact, aquaculture, fishery management, World Waters)
: 8 (introduced species, ecological impact, fishery management, Africa)
: 33 (introduced species, ecological impact, fishery management, Australia)
: 58 (introduced species, reproduction, largemouth bass, FL)
: 66 (introduced species, ecological effects, Salmonidae, North America)
: 80 (introduced species, stock identification, DNA)
: 95 (stock identification, DNA, genomes, methodology, Salmonidae)
: 99 (introduced species, phenotypes, ecological impact)
: 118 (introduced species, aquaculture, brown trout, rainbow trout, Ganaraska R., Ont.)
: 124 (introduced species, aquaculture, natural populations, Pacific salmons, NW North America)
: 148 (genotypes, selective breeding, aquaculture)
: 178 (introduced species, ecological impact, resource conservation)
TF 1765 (transplantation, fingerlings, sterilization, coho salmon, Jasper L., Burnt-out L., B.C.)
1780 (morphology, stock identification, coho salmon, Keogh R., B.C.)
1789 (aquaculture techniques, triploids, conferences, females, Salmonidae)
: 1 (aquaculture techniques, sexual maturity, control, Salmonidae, Nfld.)
: 15 (selective breeding, triploids, aquaculture techniques, Atlantic salmon, Scotland)
: 37 (sterilization, triploids, aquaculture techniques, females, sockeye salmon, W Vancouver, B.C.)
: 47 (triploids, control, aquaculture techniques, females, Atlantic salmon, Tasmania)
: 73 (triploids, physiology, aquaculture techniques, Salmonidae)
: 81 (triploids, sex-reversal, aquaculture techniques, Atlantic salmon)
: 89 (triploids, marketing, rainbow trout, Atlantic salmon, Nfld.)
: 97 (triploids, control, aquaculture techniques, Atlantic salmon)
: 101 (aquaculture techniques, sexual maturity, control, rainbow trout, Thamesford, Ont.)
: 111 (selective breeding, aquaculture techniques, polyploids, females, brook trout)
DF 841 (stock identification, proteins, chum salmon, NE Pac.)
IF 208 (aquaculture, brood stocks, polyploids, Nfld.)
TS 5549 (selective breeding, sexual maturity, males, rainbow trout)

Georges Bank (*see* NORTHWEST ATLANTIC OCEAN)

Georgia, Strait of (*see* NORTHWEST ATLANTIC OCEAN)

GEORGIA STATE, USA
J 48(5) : 811 (biological drift, community composition, aquatic insects, Ogeechee R.)

GERMANY, FEDERAL REPUBLIC OF (FRG)
J 48(6) : 995 (spawning behavior, echo surveys, powan, Constance L.)

GRAYLING (*Thymallus thymallus*)
J 48(7) : 1176 (environmental effects, water temperature, light, emergence)

GRAYLING, ARCTIC (*Thymallus arcticus*)
J 48(1) : 53 (rheotaxis, orientation behavior, genetics, rivers, lakes, MT)

GREAT LAKES, NORTH AMERICA (*see also* names of lakes)
J 48(7) : 1308 (phenotypes, enzymatic activity, rainbow trout, Lower Laurentian Great Lakes)
(8) : 1381 (introduced species, distribution records, dispersal, zebra mussel)
(S1) : 171 (introduced species, control, international organizations)

GREENLAND
J 48(5) : 884 (stock identification, DNA, Atlantic salmon, NW Atl.)

Gymnocephalus cernuus (*see* RUFFE)

H

HABITAT
J 48(1) : 123 (aquatic plants, feeding behavior, controlled conditions, pumpkinseed)
(2) : 261 (chemical pollutants, bioaccumulation, Cyprinidae, St. Clair R., Detroit R., Ont.)
(5) : 849 (habitat selection, avoidance reactions, predation, fishes, Sacramento squawfish, Eel R., CA)
(6) : 1069 (habitat selection, substrata, predation, stoneflies)
(7) : 1235 (microhabitat, competition, rosyside dace, rainbow trout, Coweeta Creek, NC)
: 1326 (fish habitat, water quality, regional planning, Puget Sound, NE Pac.)
(8) : 1364 (habitat selection, habitat preferences, seasonal variations, cutthroat trout, Musqueam Creek, B.C.)
: 1574 (habitat improvement, food webs, nutrients, L. Ontario)
(12) : 2307 (food availability, zooplankton, niches, powan, vendace, L. Mjosa, Norway)
TF 1692 (environmental impact, bridges, fishes, B.C.)
1756 (utilization, distribution, sockeye salmon, Quensel L., B.C.)
1786 (habitat improvement, methodology, manuals, freshwater fishes, N.B.)
1810F (habitat improvement, resource conservation, vulnerability, commercial species, Gulf of St. Lawrence)
MF 2076 (habitat improvement, limnological surveys, Atlantic salmon, Dunbar Stream, Nashwaak R., N.B.)
2089F (lagoons, biological properties, physical properties, fishes, Bay of Chaleur, Gulf of St. Lawrence)
DF 814 (ground water, hydrology, fishes, Kouchibouguac R., N.B., Wilmot R., P.E.I., Ste. Genevieve R., Nfld.)
827 (emergence, aquatic plants, aquatic insects, Fraser R. estuary, Campbell R. estuary, B.C.)
IF 206 (conferences, research, Gulf of St. Lawrence)

HADDOCK (*Melanogrammus aeglefinus*)
J 48(6) : 1003 (recruitment, biotic factors, abiotic factors, NW Atl.)
(8) : 1350 (recruitment, prediction, vertebrae counts, NW Atl.)

HAKE, CAPE (*Merluccius capensis*)
J 48(10) : 1887 (catchability, trawling, population analysis, Namibia, Angola)
(11) : 2095 (catch statistics, spatial variations, body size, Namibia)

HAKE, DEEPWATER (*Merluccius paradoxus*)
J 48(11) : 2095 (catch statistics, spatial variations, body size, Namibia)

HAKE, PACIFIC (*Merluccius productus*) (Pacific whiting)
J 48(11) : 2118 (feeding behavior, prey selection, food availability, Vancouver I., B.C.)
MF 2012 (fishery surveys, biological data, SW coast Vancouver I., B.C.)

HAKE, WHITE (*Urophycis tenuis*)
TF 1828 (age determination, methodology, growth, Gulf of St. Lawrence)

HALIBUT, ATLANTIC (*Hippoglossus hippoglossus*)
TS 5524 (aquaculture, rearing, fishery biology, Norway)

HALIBUT, GREENLAND (*Reinhardtius hippoglossoides*) (blue halibut)
TS 5520 (parasites, check lists, Labrador Sea, Bering Sea)

Halichoerus grypus (*see* SEAL, GREY)

Haliotis discus hannai (*see* ABALONE (=Ezoawabi))

Hecate Strait (*see* NORTHEAST PACIFIC OCEAN)

HERRING, ATLANTIC (*Clupea harengus harengus*)
J 48(3) : 448 (recruitment, survival, models, ME)
(8) : 1350 (recruitment, prediction, vertebrae counts, NW Atl.)
EC 99 (economic analysis, purse seining, Nfld.)

HERRING, BLUEBACK (*Alosa aestivalis*)
DF 829 (life history, biological data, Mactaquac Dam, N.B.)
842 (landing statistics, estuarine fisheries, Gulf of St. Lawrence)

HERRING, LAKE (*Coregonus artedii*) (cisco)
J 48(4) : 569 (population dynamics, population structure, age composition, L. Superior)

HERRING, PACIFIC (*Clupea harengus pallasi*) (*Clupea pallasi*)
J 48(8) : 1350 (recruitment, prediction, vertebrae counts, NE Pac.)
(12) : 2365 (stock identification, multivariate analysis, body size, age composition, B.C.)
MF 2012 (fishery surveys, biological data, SW coast Vancouver I., B.C.)
2019(1) (spawning grounds, distribution records, historical account, Queen Charlotte Is., B.C.)
(6) (spawning grounds, geographical distribution, historical account, W coast Vancouver I., B.C.)
2108 (echo surveys, stock assessment, cruises, Hecate Strait, NE Pac.)
DF 819 (biological sampling, age composition, geographical distribution, NE Pac.)
821 (fishery surveys, eggs, predation, Lambert Channel, Strait of Georgia, NE Pac.)
IF 205 (fishery management, stock assessment, roe fisheries, B.C.)
207 (stock assessment, roe fisheries, human food, bait, B.C.)

Hexagenia rigida (*see* MAYFLY, BURROWING)

Hippoglossoides platessoides (*see* PLAICE, AMERICAN)

Hippoglossus hippoglossus (*see* HALIBUT, ATLANTIC)

HISTORICAL ACCOUNT
J 48(12) : 2344 (hydrocarbons, sediments, Halifax Harbour, N.S.)
: 2543 (ICES, N Atl.)
(S1) : 13 (introduced species, exotic species, native species, Europe)
: 46 (introduced species, environmental impact, North America, Canada)
CH 40 (tidal records, Saint John R., N.B.)

Homarus americanus (*see* LOBSTER, AMERICAN)

HUDSON BAY, CANADA
J 48(2) : 276 (abundance, geographical distribution, narwhal)
B 224 : 59 (age, length-weight relationships, males, females, white whale)
: 69 (abundance, territoriality, population structure, white whale, Nastapoka estuary)

Hudson Strait (*see* ARCTIC)

HURON, LAKE, NORTH AMERICA
J 48(8) : 1581 (wetlands, resource conservation, limnological data)

Hyalella azteca (*see* CRUSTACEA)

Hyas araneus (*see* CRAB, ATLANTIC LYRE)
coarctatus (*see* CRAB, ARCTIC LYRE)

Hydrurga leptonyx (*see* SEAL, LEOPARD)

I

Iaera albifrons ischioseta (*see* CRUSTACEA)

Ictalurus nebulosus (*see* BULLHEAD, BROWN)

IDAHO STATE, USA
J 48(2) : 191 (degradation, carcasses, rainbow trout, Mink Creek)
(10) : 1872 (migrations, fishways, models, juveniles, chinook salmon, Lower Granite Dam, Snake R.)

INFORMATION SERVICES
J 48(4) : 694 (check lists, size distribution, vertical distribution, fishes, Sargasso Sea)
(5) : 811 (check lists, community composition, aquatic insects, Ogeechee R., GA)
SP 112 (check lists, distribution records, biogeography, Bivalvia, E Pac.)
113 : 319 (check lists, aquatic communities, intertidal environment, SCUBA diving, Gulf of St. Lawrence)
: 335 (bibliographies, marine ecology, estuarine dynamics, Gulf of St. Lawrence)
AR : (Department of Fisheries and Oceans, year ending March 31, 1989)
: (Department of Fisheries and Oceans, year ending March 31, 1990)
TF 1772 (bibliographic information, parasites, *Polypodium hydriforme*, lake sturgeon)
1775 (bibliographies, Arctic char complex)
1786 (habitat improvement, methodology, manuals, freshwater lakes, N.B.)
1791 (manuals, data collections, escapement, Pacific salmons, NE Pac.)
1810F (check lists, commercial species,

habitat improvement, vulnerability, Gulf of St. Lawrence)
1819 (bibliographies, underwater telemetry, aquatic organisms)
MF 2098 (manuals, entrainment, impingement, aquatic organisms, B.C.)
2100 (check lists, artificial reefs, fishes, macroinvertebrates, French Creek, B.C.)
2122 (documents, report literature, DFO, Moncton, N.B.)
DH 92 (check lists, geographical distribution, benthos, Invertebrata, Burrard Inlet, NE Pac.)
TS 5520 (check lists, parasites, Greenland halibut, Labrador Sea, Bering Sea)

INTRODUCED SPECIES
J 48(8) : 1381 (distribution records, dispersal, zebra mussel, Great Lakes, North America)
: 1389 (geographical distribution, prediction, zebra mussel, North America)
(10) : 1853 (environmental impact, aquatic plants, snails, crayfish, rusty crayfish, WI)
(S1) (ecological impact, genetics, fishery management, conferences, North America)
: 5 (ecological impact, genetics, aquaculture, fishery management, World Waters)
: 8 (ecological impact, genetics, aquaculture, fishery management, Africa)
: 13 (exotic species, native species, historical account, Europe)
: 24 (ecological impact, fishery management, tropical Asia, tropical America)
: 33 (ecological impact, genetics, fishery management, Australia)
: 46 (historical account, environmental impact, North America, Canada)
: 58 (genetics, reproduction, largemouth bass, FL)
: 66 (genetics, ecological effects, Salmonidae, North America)
: 80 (stock identification, DNA, genomes)
: 95 (stock identification, DNA, genomes, methodology, Salmonidae)
: 99 (genetics, phenotypes, ecological impact)
: 110 (disease control, aquaculture)
: 118 (genetics, aquaculture, brown trout, rainbow trout, Ganaraska R., Ont.)
: 124 (genetics, aquaculture, natural populations, Pacific salmons, NW North America)
: 134 (stocking organisms, aquaculture, evaluation, lake trout, L. Opeongo, Ont.)
: 156 (legislation, fishery policy, governments, Canada)
: 162 (legislation, environmental protection, governments, USA)
: 167 (stocking organisms, legislation, states, USA)
: 171 (control, international organizations, Great Lakes, North America)
: 178 (genetics, ecological impact, resource conservation)

INVERTEBRATA (*see also* names of organisms)
J 48(5) : 811 (aquatic insects, biological drift, community composition, Ogeechee R., GA)
(8) : 1558 (abundance, community composition, pollution effects, macroinvertebrates, L. Ontario)
(10) : 1926 (biological drift, streamflow rate, benthos, Colorado R., CO)
(11) : 2184 (temporal distribution, spatial variations, mathematical analysis, macroinvertebrates, Padden Creek, WA)
(12) : 2355 (macroinvertebrates, environmental effects, flooding, Delta Marsh, Man.)
: 2477 (environmental impact, impoundments, stream flow, macroinvertebrates, Granby Reservoir, CO)
(S1) : 110 (introduced species, disease control, aquaculture)
MF 2100 (check lists, artificial reefs, macroinvertebrates, French Creek, B.C.)
DH 92 (geographical distribution, check lists, benthos, Burrard Inlet, NE Pac.)

J

JAPAN
TS 5525 (sexual maturity, gonads, Japanese sea urchin, Soya I., Rebun I., Hokkaido)
5526 (catchability, diving, abalone, Kisakata)
5527 (tagging, dyes, methodology, Japanese sea urchin, Hokkaido)
5528 (aquaculture, growth, juveniles, Japanese sea urchin, Hokkaido)
5532 (catching methods, fishing gear, sea urchins, Hokkaido)
5533 (seed production, aquaculture, costs, Japanese sea urchin, Hokkaido)
5537 (horizontal distribution, size distribution, carapace, snow crab)
5541 (chemical pollution, aromatic hydrocarbons, distribution, Kitakyusho)

K

Katsuwonus pelamis (*see* TUNA, SKIPJACK)

KOKANEE (*Oncorhynchus nerka*)
J 48(1) : 67 (vertical migrations, diurnal variations, acoustic surveys, Okanagan L., B.C.)

L

LABRADOR, NFLD.
J 48(6) : 975 (paleoclimate, water temperature, indicator species, Chironomidae, lakes)
(8) : 1437 (genetics, hybrids, Arctic char, brook trout, N Labrador)
DF 838 (catch statistics, commercial fishing, fishery management, Atlantic salmon)
TH 129 (ice observations, satellite sensing)
DH 91 (current observations, current meter data, Labrador Current)
CH 38 (oceanographic data, surface circulation, drifting data buoys)

LABRADOR SEA
J 48(1) : 2 (fishery surveys, catch/effort, population number, juveniles, Atlantic salmon)
TH 131 (hydrostatics, bottom pressure, statistical analysis, Labrador/ Nfld. Shelf)
CH 39 (oceanographic data, physical oceanography, time series analysis, summer, Labrador Shelf)
TS 5520 (parasites, check lists, Greenland halibut)

Labrador Shelf (*see* LABRADOR SEA)

Lake ...(*see* name of lake)

Lampetra tridentata (*see* LAMPREY, PACIFIC)

LAMPREY, PACIFIC (*Lampetra tridentata*)
J 48(7) : 1250 (abundance, migrations, Fraser R., B.C.)

LAMPREY, SEA (*Petromyzon marinus*)
J 48(5) : 832 (distribution records, trawling, catch statistics, NW Atl.)

Lepomis gibbosus (*see* PUMPKINSEED)
macrochirus (*see* BLUEGILL)

Leptonychotes weddellii (*see* SEAL, WEDDELL)

Limanda ferruginea (*see* FLOUNDER, YELLOWTAIL)

LITTLENECK, JAPANESE (*Tapes philippinarum*)
MF 2070 (fishery surveys, fishery management, Vancouver I., B.C.)

LITTLENECK, PACIFIC (*Protothaca staminea*)
MF 2070 (fishery surveys, fishery management, Vancouver I., B.C.)

Lobodon carcinophagus (*see* SEAL, CRABEATER)

LOBSTER, AMERICAN (*Homarus americanus*)
J 48(2) : 209 (predation, eggs, *Pseudocarcinonemertes homari*)
(10) : 1944 (environmental effects, swimming, juveniles)
(11) : 2073 (water temperature, yield predictions, models, N.S., N.B., ME)
SP 113 : 161 (environmental effects, climate, hydrography, recruitment, Gulf of St. Lawrence)
: 179 (environmental effects, winds, runoff, landing statistics, Gulf of St. Lawrence)
TF 1773F (trap nets, yield, by catch, Bay of Chaleur, Gulf of St. Lawrence)
MF 2022 (migrations, tagging, off S N.S.)
EC 73 (market research, consumers, USA)
74 (market research, commercial availability, cost analysis, USA)
91 (fishery economics, cost analysis, pricing, Maritime Provinces)
109 (fishery economics, pricing, Scotia-Fundy Region, NW Atl.)

LOUISIANA STATE, USA
J 48(3) : 487 (gear selectivity, gillnets, models, spotted seatrout)

Lymnaea elodes (*see* SNAILS)

M

MACKEREL, ATLANTIC (*Scomber scombrus*)
J 48(2) : 296 (stock identification, otoliths, models, NW Atl., North Sea)
IF 210 (landing statistics, catch/effort, Dingwall, Cape Breton I., N.S.)

Maine, Gulf of (*see* NORTHWEST ATLANTIC OCEAN)

MAINE STATE, USA
J 48(3) : 448 (recruitment, survival, models, Atlantic herring)
(11) : 2073 (water temperature, yield predictions, models, American lobster)
: 2140 (stock identification, morphology, meristic counts, Atlantic whitefish, lake whitefish)

Mallotus villosus (*see* CAPELIN)

MANITOBA (PROVINCE), CANADA
J 48(1) : 152 (water circulation, ice canopy, temperature profiles, Wupaw Bay, Southern Indian L.)
(8) : 1468 (mercury, bioaccumulation, reservoirs, northern pike, walleye, lake whitefish, Churchill R. diversion)
(12) : 2355 (environmental effects, flooding, macroinvertebrates, Delta Marsh)

: 2449 (mercury, bioaccumulation, yellow perch, spottail shiner, lake whitefish, northern pike, walleye, reservoirs)

MARINE BIRDS
SP 113 : 277 (food consumption, models, predation, Gulf of St. Lawrence)

MARITIME PROVINCES (*see also* New Brunswick; Nova Scotia; Prince Edward Island)
J 48(11) : 2140 (stock identification, morphology, meristic counts, Atlantic whitefish, lake whitefish)
DF 852 (sport fishing, catch statistics, Atlantic salmon)
EC 91 (fishery economics, cost analysis, pricing, American lobster)

MASSACHUSETTS STATE, USA
J 48(5) : 938 (chemoreception, homing behavior, olfaction, brook trout, Angeline Brook)

Mayflies (*see* EPHEMEROPTERA)

MAYFLY, BURROWING (*Hexagenia rigida*)
J 48(1) : 39 (heavy metals, bioaccumulation, sediments, Joannes L., Que.)

MEDUSAE
J 48(8) : 1419 (feeding behavior, predation, zooplankton, Bedford Basin, N.S.)

Megarcys signata (Perlodidae) (*see* STONEFLIES)

Menidia menidia (*see* SILVERSIDE, ATLANTIC)

Merluccius capensis (*see* HAKE, CAPE)
paradoxus (*see* HAKE, DEEPWATER)
productus (*see* HAKE, PACIFIC)

METEOROLOGY
J 48(6) : 975 (paleoclimate, water temperature, indicator species, Chironomidae, lakes, Labrador)
(8) : 1517 (climate changes, physical limnology, L. Ontario)

METHODOLOGY AND TECHNIQUES
J 48(1) : 19 (age determination, otoliths, growth, brown trout)
(2) : 254 (tagging, models, mortality, sockeye salmon)
: 290 (hydroacoustics, range detection, controlled conditions)
: 303 (bongo samplers, mesh selectivity, catch/effort, *Calanus finmarchicus*)
(3) : 429 (chromatography, stock identification, astaxanthin, Atlantic salmon, Norway)
(4) : 640 (electrophoresis, stock identification, deepwater redfish, Acadian redfish, Gulf of St. Lawrence)
(6) : 1007 (age determination, bones, Arctic char, Wood R., AK)
(7) : 1244 (flow measurement, gypsum cylinders, fresh water)
: 1273 (models, stock assessment, yellowtail flounder, NW Atl.)
(8) : 1396 (electrophoresis, stock identification, evaluation, pink salmon)
: 1446 (age determination, length, sexual maturity, white sucker, Ont.)
(9) : 1685 (bioassays, PCBs, pollution effects, reproduction, chinook salmon, L. Michigan)
: 1691 (echo surveys, stock assessment, spatial variations, walleye pollock, Shelikof Strait, AK)
: 1724 (DNA, cell organelles, stock identification, American shad, Canada, USA, NW Atl.)
: 1772 (models, sound reflection, stock assessment, demersal fisheries)
(10) : 1877 (samplers, evaluation, periphyton, lakes, Que.)
: 1882 (samplers, evaluation, substrata, periphyton, rivers)
: 1909 (morphoedaphic index, prediction, primary production, freshwater lakes, Canada)
: 1937 (models, morphoedaphic index, fishery management, potential yield)
: 1979 (sampling, evaluation, trophic structure, lakes, Que.)
(11) : 2040 (electrophoresis, stock identification, morphology, capelin, Gulf of St. Lawrence, St. Lawrence R. estuary)
: 2173 (stock identification, genomes, fishes)
: 2184 (mathematical analysis, temporal distribution, spatial variations, macroinvertebrates, Padden Creek, WA)
(12) : 2365 (stock identification, multivariate analysis, body size, age composition, Pacific herring, B.C.)
(S1) : 95 (stock identification, DNA, genomes, Salmonidae)
SP 113 : 313 (discriminant analysis, scales, stock identification, Atlantic salmon, St. Lawrence R. estuary)
B 224 : 7 (electrophoresis, evolution, taxonomy, white whale, toothed whales)
: 141 (tetracycline, tooth growth, age determination, white whale)
TF 1786 (habitat improvement, manuals, freshwater fishes, N.B.)
1828 (age determination, methodology, growth, white hake, Gulf of St. Lawrence)
MF 2086 (age determination, length, females, males, Pacific cod, NE Pac.)

2098 (manuals, entrainment, impingement, aquatic organisms, B.C.)
2113 (algorithms, stock assessment, echo surveys, marine fishes)
TH 125 (current measuring equipment, evaluation, near-surface layer, NE Pac.)
133 (analytical techniques, heavy metals, sediments, pore water)
CH 39 (time series analysis, oceanographic data, physical oceanography, summer, Labrador Shelf)
TS 5521 (chemical extraction, gelatin, skin, sharks, skates)
5527 (tagging, dyes, Japanese sea urchin, Hokkaido, Japan)
5529 (processing fishery products, scallops)
5545 (aerosols, surfactants, ions, correlation analysis)

MEXICO, GULF OF
J 48(5) : 792 (stock identification, electrophoresis, Spanish sardine, E Gulf of Mexico)

MICHIGAN, LAKE, USA
J 48(1) : 105 (food webs, biomass, pelagic environment)
: 116 (phytoplankton, zooplankton, trophic relationships, Green Bay)
(5) : 894 (echo surveys, abundance, body size, plankton feeders)
: 909 (prey selection, alewife, bloater, Salmonidae)
: 923 (bacterioplankton, production, benthic environment)
(9) : 1804 (pollution effects, aromatic hydrocarbons, sediments, tumors, walleye, brown bullhead)

MICHIGAN STATE, USA
J 48(9) : 1645 (physicochemical properties, hyporheic zone, surface layers, Maple R.)
: 1685 (PCBs, bioassays, pollution effects, reproduction, chinook salmon)
: 1704 (interspecific relationships, competition, feeding behavior, largemouth bass, rainbow trout, Peter L., Paul L.)

Microgadus tomcod (*see* TOMCOD, ATLANTIC)

Micropterus dolomieui (*see* BASS, SMALLMOUTH)
salmoides (*see* BASS, LARGEMOUTH)
salmoides floridanus (*see* BASS, LARGEMOUTH)

MIGRATIONS AND TAGGING
J 48(1) : 67 (vertical migrations, diurnal variations, acoustic surveys, kokanee, opossum shrimp, Okanagan L., B.C.)
(2) : 254 (tagging, methodology, mortality, models, sockeye salmon)
(5) : 751 (local movements, tagging, trap fishing, waved whelk)
: 757 (local movements, seasonal variations, spatial variations, cutthroat trout, Musqueam Creek, B.C.)
: 799 (migrations, models, homing behavior, adults, sockeye salmon, NE Pac.)
(7) : 1167 (males, snow crab, Gulf of St. Lawrence)
: 1250 (migrations, abundance, Pacific lamprey, Fraser R., B.C.)
(9) : 1670 (migrations, juveniles, coho salmon, Chehalis R., Grays Harbor estuary, WA)
(10) : 1872 (migrations, fishways, models, juveniles, chinook salmon, Lower Granite Dam, Snake R., ID)
(11) : 2212 (anadromous migrations, seasonality, bioenergetics, brook trout, Saumon R., Que.)
: 2250 (migrations, food availability, zooplankton, alewife, L. Ontario)
: 2258 (migrations, isotopes, indicators, lake whitefish, broad whitefish, Mackenzie R. basin, N.W.T.)
(12) : 2436 (tagging, handling, growth, northern fur seal, Pribilof I., AK)
B 224 : 39 (migrations, white whale, AK)
: 81 (tags, marking, skin, white whale, bottlenose dolphin)
TF 1722 (fishery surveys, stock assessment, coho salmon, SE Vancouver I., B.C.)
1758 (fishery surveys, escapement, sockeye salmon, Henderson L., Vancouver I., B.C.)
1764 (migrations, northern fur seal, N Pac.)
1769 (local movements, harbor seal, California sea lion, Steller sea lion, Comox Harbour, Cowichan Bay, B.C.)
1790 (tagging, Atlantic salmon, Miramichi R., N.B.)
MF 2019(1) (spawning grounds, distribution records, historical account, Pacific herring, Queen Charlotte Is., B.C.)
(6) (spawning migrations, spawning grounds, geographical distribution, Pacific herring, W coast Vancouver I., B.C.)
2022 (American lobster, off S N.S.)
2068 (stock assessment, escapement, survival, coho salmon, Salmon R., B.C.)
2079 (stock assessment, escapement, survival, coho salmon, Salmon R., B.C.)
2114 (tagging, stock assessment, escapement, survival, coho salmon, Salmon R., B.C.)

2124 (tagging, stock assessment, escapement, chinook salmon, Campbell R., Quinsam R., B.C.)
DF 523 (transplantation, coho salmon, Quinsam Watershed, B.C.)
524 (transplantation, coho salmon, Quinsam Watershed, B.C.)
812 (tagging, traps, smolts, coho salmon, Lachmach R., B.C.)
815 (migrations, Arctic char, Nauyuk L., N.W.T.)
824 (tagging, coho salmon, Lachmach R., B.C.)
828 (fishery surveys, biological data, Arctic char, Salmon R., Baffin I., N.W.T.)
830 (stock assessment, fish counters, autumn, coho salmon, Lachmach R., B.C.)
832 (stock assessment, fish counters, spring, smolts, coho salmon, Lachmach R., B.C.)
TS 5527 (tagging, dyes, methodology, Japanese sea urchin, Hokkaido, Japan)

MISSISSIPPI STATE, USA
J 48(4) : 681 (interspecific relationships, feeding behavior, prey selection, blackbanded darter, dusky darter, freckled darter, Black Creek)

MODELS
J 48(1) : 7 (feeding behavior, filter feeders, bream)
: 73 (bioassays, bioaccumulation, phosphates, plankton, Jacks L., Bay of Quinte, Ont.)
: 140 (trophic structure, phosphorus, nitrogen, lakes, Ont.)
: 146 (zooplankton, prediction, Que., Hudson R., NY)
(2) : 254 (tagging, methodology, mortality, sockeye salmon)
: 296 (stock identification, otoliths, Atlantic mackerel, NW Atl., North Sea)
: 318 (bioaccumulation, chemical pollutants, freshwater fishes)
(3) : 340 (echo surveys, backscatter, zooplankton, Scotian Shelf, NW Atl.)
: 391 (growth, bioenergetics, Pacific oyster, Marennes-Oléron Bay, France)
: 405 (fat dynamics, sexual maturity, males, Atlantic salmon)
: 434 (bioenergetics, food consumption, juveniles, walleye)
: 448 (recruitment, survival, Atlantic herring, ME)
: 487 (gear selectivity, gillnets, spotted seatrout, LA)
(4) : 526 (numerical analysis, harvesting, resource conservation, sockeye salmon, Adams R., B.C.)
: 555 (age determination, analytical errors, recruitment, population analysis)
: 569 (population structure, sexual maturity, lake herring, L. Superior)
: 591 (MULTIFAN, length frequency, abundance, northern pink shrimp, Gulf of Maine, NW Atl.)
: 599 (evaluation, pollution effects, acidification, lakes, E Canada)
: 619 (fishery management, yield predictions, lakes)
: 623 (fishery management, ocean circulation, annual variations, sockeye salmon, NE Pac.)
(5) : 799 (migrations, homing behavior, adults, sockeye salmon, NE Pac.)
: 933 (digestion, chinook salmon, coho salmon, smallmouth bass)
(6) : 975 (paleoclimate, water temperature, indicator species, Chironomidae, lakes, Labrador)
: 1081 (schooling behavior, skipjack tuna)
: 1100 (bias, food consumption, daily ration, yellow perch, L. Erie)
(7) : 1273 (stock assessment, methodology, yellowtail flounder, NW Atl.)
(8) : 1431 (fecundity, seasonal variations, common tiger prawn, Torres Strait, Australia)
: 1492 (growth, walleye, Oneida L., NY, L. Erie)
(9) : 1613 (population structure, age composition, red king crab, Bristol Bay, Bering Sea)
: 1772 (stock assessment, sound reflection, demersal fisheries)
(10) : 1872 (migrations, fishways, juveniles, chinook salmon, Lower Granite Dam, Snake R., ID)
: 1887 (catchability, trawling, population analysis, cape hake, Namibia, Angola)
: 1937 (morphoedaphic index, fishery management, potential yield)
(11) : 2073 (water temperature, yield predictions, American lobster, N.S., N.B., ME)
: 2109 (growth, mathematical analysis, shellfish, fishes)
: 2129 (biological sampling, errors, yield predictions)
: 2240 (recruitment, Pacific cod, Hecate Strait, NE Pac.)
(12) : 2429 (mortality, by catch, commercial fishing, harbor porpoise, Bay of Fundy, Gulf of Maine, NW Atl.)
: 2509 (acidification, approximation, lakes, Ont.)
: 2533 (recruitment, potential yield, harvesting)
SP 113 : 277 (food consumption, predation, seabirds, Gulf of St. Lawrence)
TF 1766F (wave hindcasting, water mixing, sediment transport, Havre aux Basques Lagoon, Magdalen Is., Gulf of St. Lawrence)
1805 (computer simulation model, mollusc

culture, blue mussel)
TH 134 (pack ice, surface currents, NW Atl.)
TS 5548 (photosynthesis, algae)
EC 95 (fishery economics, aquaculture, Atlantic salmon, chinook salmon, B.C.)

Monodon monoceros (*see* NARWHAL)

MONTANA STATE, USA
J 48(1) : 53 (rheotaxis, orientation behavior, rivers, lakes, Arctic grayling)
(2) : 222 (pollution effects, heavy metals, benthos, sediments, Blackfoot R.)

MOOSE (*Alces alces*)
J 48(3) : 442 (detritus feeders, trophodynamic cycle, secondary production, Monument Creek, AK)

Morone americana (*see* PERCH, WHITE)
saxatilis (*see* BASS, STRIPED)

MORPHOLOGY AND TAXONOMY
J 48(1) : 7 (filter feeders, feeding behavior, models, bream)
(4) : 661 (phenotypes, ecotypes, chum salmon, Vancouver I., B.C.)
(7) : 1151 (abnormalities, ligulae, antennae, pollution indicators, *Procladius*)
(9) : 1662 (scale morphology, growth, aquaculture, Nile tilapia)
: 1679 (morphology, population structure, geographical distribution, threespine stickleback, blackspotted stickleback, New York Bight, NW Atl.)
: 1783 (natural populations, cultured populations, genetics, coho salmon)
(11) : 2040 (stock identification, electrophoresis, morphology, capelin, Gulf of St. Lawrence, St. Lawrence R. estuary)
: 2140 (stock identification, morphology, meristic counts, Atlantic whitefish, lake whitefish, ME, Maritime Provinces)
: 2191 (taxonomy, sympatric species, Dolly Varden, bull trout, North America)
: 2223 (fins, anatomy, embryos, Atlantic salmon)
B 224 : 7 (taxonomy, evolution, electrophoresis, white whale, toothed whale)
TF 1762 (identification keys, larvae, snow crab, Atlantic lyre crab, Arctic lyre crab, N Atl.)
1771 (Crustacea, Anomura, Brachyura, NW Atl.)
1780 (morphology, stock identification, population genetics, coho salmon, Keogh R., B.C.)
1781 (conferences, diatoms, Arctic, Antarctica)
1820 (identification keys, body size, conversion tables, tunas, NW Atl.)
TS 5540 (parasites, Spirurata)

MOSQUITOFISH, EASTERN (*Gambusia holbrooki*)
J 48(1) : 60 (life history, thermal pollution, nuclear power plants, Savannah R. Site, SC)

Mugilidae (*see* MULLETS)

MULLETS (Mugilidae)
TS 5547 (fecundity, eggs, sperm, Black Sea)

MUSSEL, BLUE (*Mytilus edulis*)
J 48(12) : 2408 (production, abundance, growth, Gulf of St. Lawrence, St. Lawrence R. estuary)
TF 1805 (computer simulation model, mollusc culture)

MUSSEL, ZEBRA (*Dreissena polymorpha*)
J 48(8) : 1381 (introduced species, distribution records, dispersal, Great Lakes, North America)
: 1389 (introduced species, geographical distribution, prediction, North America)
(11) : 2051 (feeding behavior, cannibalism, zooplankton, L. Erie)

MUSTELIDAE (carnivorous mammals)
TS 5543 (reproductive cycle, seasonal variations, females)

Mya arenaria (*see* SOFTSHELL)

Myoxocephalus quadricornis (*see* SCULPIN, FOURHORN)

Mysis relicta (*see* SHRIMP, OPOSSUM)

Mytilus edulis (*see* MUSSEL, BLUE)

N

NAMIBIA
J 48(10) : 1887 (catchability, trawling, population analysis, cape hake)
(11) : 2095 (catch statistics, spatial variations, body size, cape hake, deepwater hake)

NANOPHYETUS SALMINCOLA
J 48(6) : 1104 (parasites, stock identification, steelhead trout, Central Pac.)

NARWHAL (*Monodon monoceros*)
J 48(2) : 276 (abundance, geographical distribution, Hudson Bay, Canada)
B 224 : 97 (avoidance reactions, ice breakers, Lancaster Sound, Arctic)

: 129 (thermoregulation, fats, comparative studies, white whale)

NEMATODA (roundworms)
TF 1750 (parasites, helminths, flying squid, NE Pac.)
TS 5534 (parasites, hosts, *Contracaecum*, ghost shrimp, White Sea)
5535 (parasites, hosts, life cycle, *Contracaecum micropapillatum*, Copepoda, Agrakhan Gulf, White Sea)
5540 (taxonomy, morphology, parasites, Spirurata)
5542 (parasites, *Contracaecum aduncum*, *Iaera albifrons ischioseta*)

NEMERTEA (ribbon worms)
J 48(2) : 209 (osmoregulation, salinity tolerance, *Pseudocarcinonemertes homari*)
(4) : 559 (predators, symbionts, eggs, red king crab, AK)

NEPHELOPSIS OBSCURA (erpobdellic leeches)
J 48(6) : 1124 (hyperoxia, environmental effects, population dynamics, controlled conditions)

NEW BRUNSWICK (PROVINCE), CANADA
J 48(11) : 2073 (water temperature, yield predictions, models, American lobster)
TF 1786 (habitat improvement, methodology, manuals, freshwater fishes)
1790 (sport fishing, exploitation, tagging, Miramachi R.)
1800 (pollution effects, organic compounds, liver, American plaice, Miramichi R. estuary)
1812 (computer programs, stream flow, measurement, Renous R.)
MF 2076 (habitat improvement, limnological surveys, Atlantic salmon, Dunbar Stream, Nashwaak R.)
2122 (documents, report literature, DFO, Moncton)
DF 814 (ground water, hydrology, habitat, fishes, Kouchibouguac R.)
829 (life history, biological data, alewife, blueback herring, Mactaquac Dam)
CH 40 (tidal records, historical account, Saint John R.)
EC 90 (economic analysis, commercial fishing, aquaculture, sport fishing, Atlantic salmon)

NEW HAMPSHIRE STATE, USA
J 48(10) : 1846 (food webs, acidification, zooplankton, lakes)

NEW YORK STATE, USA
J 48(1) : 84 (phosphorus, temporal variations, stream waters, sediments, Hoxie Gorge Creek)
: 146 (zooplankton, prediction, models, Hudson R.)
(6) : 1030 (acidification, buffers, optical properties, lakes)
(8) : 1460 (chemical limnology, phosphorus, rivers)
: 1492 (growth, models, walleye, Oneida L.)
(10) : 1846 (food webs, acidification, zooplankton, lakes)

NEWFOUNDLAND (PROVINCE), CANADA
J 48(1) : 48 (stock identification, DNA, PCR, Atlantic cod)
(4) : 577 (stock identification, DNA, anadromous species, nonanadromous species, Atlantic salmon, Gambo R.)
(11) : 2228 (pollution effects, crude oil, sediments, incubation, capelin, Conception Bay)
TF 1763 (pollution effects, insecticides, enzyme activity, brain, brook trout)
1782 (gear selectivity, mesh selectivity, trap nets, Atlantic cod)
1789 : 1 (aquaculture techniques, sexual maturity, control, Salmonidae)
: 89 (aquaculture techniques, marketing, triploids, rainbow trout, Atlantic salmon)
1817 (population dynamics, recruitment, population structure, snow crab, Bonne Bay)
DF 814 (ground water, hydrology, habitat, fishes, Ste. Genevieve R.)
838 (catch statistics, commercial fishing, fishery management, Atlantic salmon)
IF 208 (aquaculture, brood stocks, polyploids)
TH 129 (ice observations, satellite sensing)
131 (hydrostatics, bottom pressure, statistical analysis, Labrador/ Nfld. Shelf)
DH 90 (oceanographic data, water temperature, time series)
CH 38 (oceanographic data, surface circulation, drifting data buoys)
EC 99 (economic analysis, purse seining, Atlantic herring)

Nitzschia pungens (*see* PLANKTON)
pungens f. *multiseries* (*see* PLANKTON)

NORTH AMERICA
J 48(5) : 884 (stock identification, DNA, Atlantic salmon, NW Atl.)
(8) : 1389 (introduced species, geographical distribution, prediction, zebra mussel)
(11) : 2191 (taxonomy, distribution records, sympatric species, Dolly Varden, bull trout)
(12) : 2377 (spawning, hatcheries, lake trout, Stony Island Reef, L. Ontario)
(S1) (introduced species, ecological

impact, genetics, conferences)
: 46 (introduced species, environmental impact, historical account)
: 66 (introduced species, ecological effects, genetics, Salmonidae)
: 124 (introduced species, genetics, aquaculture, natural populations, Pacific salmons, NW North America)

NORTH ATLANTIC OCEAN
J 48(2) : 267 (fecundity, reproduction, rock crabs)
(12) : 2543 (historical account, ICES)
TF 1762 (taxonomy, morphology, snow crab, Atlantic lyre crab, Arctic lyre crab)

NORTH CAROLINA STATE, USA
J 48(7) : 1235 (competition, microhabitat, rosyside dace, rainbow trout, Coweeta Creek)

NORTH PACIFIC OCEAN
J 48(2) : 267 (fecundity, reproduction, rock crabs)
(12) : 2403 (predation, mortality, injuries, daggertooth, Pacific salmons)
TF 1764 (migrations, northern fur seal)

NORTH SEA
J 48(2) : 296 (stock identification, otoliths, models, Atlantic mackerel)

NORTHEAST PACIFIC OCEAN
J 48(2) : 215 (growth, reproductive energetics, spiny scallop, reddish scallop, giant rock scallop)
(3) : 382 (bioaccumulation, chemical elements, fatty acids, spot shrimp)
(4) : 623 (ocean circulation, annual variations, fishery management, models, sockeye salmon)
(5) : 784 (trap nets, design, evaluation, spot shrimp, Saanich Inlet)
: 799 (models, migrations, homing behavior, adults, sockeye salmon)
(6) : 960 (geographical distribution, biological poisons, *Nitzschia pungens*)
(7) : 1326 (fish habitat, water quality, regional planning, Puget Sound)
(8) : 1350 (recruitment, prediction, vertebrae counts, Pacific herring)
(9) : 1713 (mortality, recruitment, annual variations, larvae, Pacific sardine, California Current)
: 1750 (pollution effects, aromatic hydrocarbons, sediments, English sole, Puget Sound)
TF 1745 (fishery surveys, distribution, abundance, demersal fishes, Hecate Strait)
1750 (parasites, helminths, flying squid)
1777 (parasites, yellowtail rockfish, Cape Scott, Destruction I.)
1778 (stock assessment, fishery management, demersal fishes)
1779 (catch statistics, catch/effort, demersal fishes)
1791 (manuals, data collections, escapement, Pacific salmons)
MF 2024 (fishery management, landing statistics, escapement, pink salmon, sockeye salmon, Johnstone Strait)
2062 (catch statistics, total mortality, seining, chinook salmon, Johnstone Strait, Sabine Channel, Strait of Juan de Fuca)
2069 (catch statistics, harvesting, catch/effort, rockfishes)
2080 (sample size, trawling, evaluation, Pacific ocean perch)
2086 (methodology, age determination, length, females, males, Pacific cod)
2087 (sport fishing statistics, creel surveys, Pacific salmons, demersal fisheries, Strait of Georgia)
2102 (fishery management, trolling, landing statistics, Pacific salmons)
2108 (echo surveys, stock assessment, cruises, Pacific herring, Hecate Strait)
2112 (stock assessment, catch statistics, escapement, pink salmon, Johnstone Strait)
DF 819 (biological sampling, age composition, geographical distribution, Pacific herring)
821 (fishery surveys, eggs, predation, Pacific herring, Lambert Channel, Strait of Georgia)
841 (stock identification, proteins, chum salmon)
TH 125 (current measuring equipment, evaluation, near-surface layer)
130 (physical oceanography, fluid dynamics, Campbell R. estuary)
DH 83(1) (salinity, temperature, water currents, Campbell R. estuary)
(2) (salinity, temperature, water currents, Campbell R. estuary)
92 (geographical distribution, check lists, benthos, Invertebrata, Burrard Inlet)

NORTHWEST ATLANTIC OCEAN
J 48(2) : 296 (stock identification, otoliths, models, Atlantic mackerel)
: 303 (mesh selectivity, biological sampling, catch/effort, *Calanus finmarchicus*)
: 309 (species identification, DNA, polymers, bluefin tuna, bigeye tuna, yellowfin tuna, albacore)
(4) : 591 (length frequency, abundance, models, northern pink shrimp, Gulf of Maine)
(5) : 832 (distribution records, trawling, catch statistics, sea lamprey)

: 884 (stock identification, DNA, North America, Greenland, Atlantic salmon)
(6) : 1003 (recruitment, biotic factors, abiotic factors, Atlantic cod, haddock)
(7) : 1273 (stock assessment, methodology, models, yellowtail flounder)
: 1316 (bottom temperature, exchange capacity, summer, Southeast Shoal)
(8) : 1350 (recruitment, prediction, vertebrae counts, Atlantic herring, Atlantic cod, haddock)
(9) : 1679 (geographical distribution, population structure, morphology, threespine stickleback, blackspotted stickleback, New York Bight)
: 1724 (stock identification, DNA, cell organelles, American shad, coasts, Canada, USA)
: 1800 (biochemical analysis, proteins, larvae, sealworm, Canada)
(12) : 2429 (mortality, by catch, commercial fishing, harbor porpoise, Bay of Fundy, Gulf of Maine)
B 224 (research programs, white whale)
TF 1771 (taxonomy, morphology, geographical distribution, Anomura, Brachyura)
1787 (environmental impact, oil and gas industry, fisheries, Grand Bank)
1820 (identification keys, body size, conversion tables, tunas)
DF 854F (sediment pollution, nutrients, heavy metals, Laurentian Trough)
TH 134 (pack ice, surface currents, mathematical models)
DH 94 (oceanographic data, current meter data, hydrographic data, Georges Bank)
TS 5546 (development, nutritional requirements, juveniles, grey seal)
EC 89 (market research, fishery economics, trade, bluefin tuna)

NORTHWEST PACIFIC OCEAN
TS 5523 (catch statistics, food availability, predation, Japanese flying squid)

NORTHWEST POLAR SEAS
B 224 (research programs, white whale)
: 23 (geographical distribution, abundance, aerial surveys, white whale)

NORTHWEST TERRITORIES (TERRITORY), CANADA
J 48(11) : 2258 (isotopes, indicators, trophic levels, migrations, lake whitefish, broad whitefish, Mackenzie R. basin)
(12) : 2395 (chlorophylls, growth, sea ice, Chesterfield Inlet)
MF 2097 (hunting statistics, biological data, reproduction, white whale, Mackenzie R. estuary)
2120 (fishery surveys, commercial fishing, potential yield, Arctic char, Koukdjuak R., Nettilling L.)
DF 815 (biological data, population dynamics, migrations, Arctic char, Nauyuk L.)
817 (fishery surveys, catch statistics, catch/effort, lake trout, Prelude L., Prosperous L.)
828 (fishery surveys, stock assessment, biological data, Arctic char, Salmon R., Baffin I.)
839 (production, macrophytes, phytoplankton, Tuktoyaktuk Peninsula, Mackenzie delta)
847 (catch statistics, sampling, gillnets, Mackenzie R. estuary)
848 (catch statistics, stock assessment, commercial fishing, Arctic char, Cambridge Bay, Keewatin, Igloolik)
849 (catch statistics, trap nets, life history, Coregonidae, Anderson R. estuary)
851 (sport fishing statistics, biological data, angling, Arctic char, Freshwater Creek)

NORWAY
J 48(1) : 48 (stock identification, DNA, PCR, Atlantic cod)
(3) : 426 (escapement, cultured organisms, Atlantic salmon)
: 429 (chromatography, stock identification, astaxanthin, Atlantic salmon)
(6) : 1015 (biological age, sexual maturity, body size, brown trout, rivers)
(12) : 2307 (habitat, food availability, zooplankton, niches, powan, vendace, L. Mjosa)
: 2316 (biological poisons, fish kill, *Prymnesium parvuum*, Atlantic salmon, fjords)
TS 5524 (aquaculture, rearing, fishery biology, Atlantic halibut)
5530 (scallop fisheries, fishery technology, processed fishery products, Iceland scallop)
5539 (boil disease, vaccination, disease control, Salmonidae)

Notropis hudsonius (*see* SHINER, SPOTTAIL)

NOVA SCOTIA (PROVINCE), CANADA
J 48(3) : 445 (pollution effects, pH, liver, proteins, Atlantic salmon, Medway R., Westfield R.)
(8) : 1419 (feeding behavior, predation, Medusae, zooplankton, Bedford Basin)
(11) : 2073 (water temperature, yield predictions, models, American lobster)
(12) : 2344 (hydrocarbons, sediments, historical account, Halifax Harbour)
MF 2022 (migrations, tagging, American lobster, off S N.S.)

IF 210 (landing statistics, catch/effort, Atlantic mackerel, Dingwall, Cape Breton I.)
EC 92(1) (labour, fishery industry plants, fishplant closures, Lockeport, Port Mouton)
(2) (labour, fishery industry plants, fishplant closures, Lockeport, Port Mouton)

O

OBITUARY
J 48(7) : 1345 (Lewis Rodman Day, 1915-1990)
(10) : 2036 (Michael Waldichuk, 1923-1991)

OCEANOGRAPHY AND LIMNOLOGY
J 48(1) : 73 (chemical limnology, models, bioaccumulation, phosphates, plankton, Jacks L., Bay of Quinte, Ont.)
: 84 (chemical limnology, phosphorus, temporal variations, stream waters, sediments, Hoxie Gorge Creek, NY)
: 132 (environmental factors, mercury, bioaccumulation, walleye, northern pike, lakes, Ont.)
: 152 (water circulation, ice canopy, temperature profiles, Wupaw Bay, Southern Indian L., Man.)
(2) : 196 (limnology, debris flow, ecological crisis, cutthroat trout, Quartz Creek, OR)
: 233 (phosphorus, sediments, spatial variations, Canadohta L., PA)
(3) : 472 (sediments, pigments, degradation, Trout L., WI)
(4) : 623 (ocean circulation, annual variations, fishery management, models, sockeye salmon, NE Pac.)
(6) : 1048 (hypolimnion, oxygen consumption, dentrification, methanogenesis, L. St. George, Ont.)
(7) : 1226 (nutrients, phosphorus, nitrogen, Sproat L., B.C.)
: 1244 (flow measurement, methodology, gypsum cylinders, fresh water)
: 1293 (phosphorus cycle, epilimnion, Jacks L., Ont.)
: 1316 (bottom temperature, exchange capacity, summer, Southeast Shoal, NW Atl.)
(8) : 1460 (chemical limnology, phosphorus, rivers, NY)
: 1500 (ecosystems, ecosystem management, L. Ontario)
: 1503 (geology, river basins, ecological management, L. Ontario)
: 1517 (physical limnology, pollution dispersion, climate changes, L. Ontario)
: 1529 (paleolimnology, nutrients, geological samples, L. Ontario)
: 1539 (nutrient cycles, food webs, aquatic plants, L. Ontario)
: 1574 (habitat improvement, food webs, nutrients, L. Ontario)
: 1581 (limnological data, wetlands, resource conservation, L. Erie, L. Ontario, L. Huron)
(9) : 1645 (physicochemical properties, hyporheic zone, surface layers, Maple R., MI)
(10) : 1979 (sampling, evaluation, trophic structure, lakes)
(12) : 2296 (coastal upwelling, environmental effects, recruitment, Pacific sardine, S CA)
: 2477 (environmental impact, impoundments, stream flow, macroinvertebrates, Granby Reservoir, CO)
SP 112 (physical oceanography, distribution records, Bivalvia, E Pac.)
113 (oceanography, estuarine dynamics, conferences, Gulf of St. Lawrence)
: 57 (physical oceanography, estuarine dynamics, variability, Gulf of St. Lawrence)
: 91 (chemical oceanography, estuarine dynamics, Gulf of St. Lawrence)
: 99 (estuarine dynamics, food webs, plankton, pelagic environment, Gulf of St. Lawrence)
: 139 (water temperature, salinity, variability, deep water, Gulf of St. Lawrence)
: 149 (current spectra, seasonal variations, Gaspé Current, Gulf of St. Lawrence)
: 153 (surface circulation, transport processes, paralytic shellfish poison, Gulf of St. Lawrence)
: 161 (environmental effects, climate, hydrography, recruitment, American lobster, Gulf of St. Lawrence)
: 189 (microfossils, sediments, spatial variations, Gulf of St. Lawrence, St. Lawrence R. estuary)
: 201 (nutrient dynamics, biota, ice, Magdalen Is., Gulf of St. Lawrence)
: 209 (physicochemical properties, trophic structure, nutrients, lagoons, Magdalen Is., Gulf of St. Lawrence)
: 219 (physicochemical properties, trophic structure, primary production, lagoons, Magdalen Is., Gulf of St. Lawrence)
: 335 (marine ecology, bibliographies, estuarine dynamics, Gulf of St. Lawrence)
TF 1766F (water mixing, sediment transport, models, Havre aux Basques Lagoon, Magdalen Is., Gulf of St. Lawrence)
1812 (computer programs, stream flow, measurement, Renous R., N.B.)
MF 1824 (limnology, dissolved oxygen, water quality, Pacific salmons, Fraser R., B.C.)

2012 (oceanographic data, fishery surveys, Pacific hake, sablefish, spiny dogfish, Pacific herring, SW coast Vancouver I., B.C.)
2076 (limnological surveys, habitat improvement, Atlantic salmon, Dunbar Stream, Nashwaak R., N.B.)
2089F (habitat, biological properties, physical properties, lagoons, Bay of Chaleur, Gulf of St. Lawrence)
2100 (artificial reefs, dimensions, structure, French Creek, B.C.)
DF 523 (water quality, water currents, migrations, coho salmon, Quinsam Watershed, B.C.)
524 (water quality, water currents, migrations, coho salmon, Quinsam Watershed, B.C.)
806 (limnological data, oligotrophic lakes, B.C.)
816 (acidification, fertilization, trace metals, Experimental Lakes Area, NW Ont.)
818 (computer programs, chemical speciation, metals, fresh water)
839 (production, macrophytes, phytoplankton, Tuktoyaktuk Peninsula, Mackenzie delta, N.W.T.)
845 (salinity, water temperature, water density, coastal zone, Yukon Territory)
TH 125 (current measuring equipment, evaluation, near-surface layer, NE Pac.)
129 (ice observations, satellite sensing, Nfld., Labrador)
130 (physical oceanography, fluid dynamics, Campbell R. estuary, NE Pac.)
131 (hydrostatics, bottom pressure, statistical analysis, Labrador/Nfld. Shelf, Labrador Sea)
133 (analytical techniques, heavy metals, sediments, pore water)
134 (pack ice, surface currents, mathematical models, NW Atl.)
DH 60(6) (oceanographic data, summer, Beaufort Sea)
76 (oceanographic data, zooplankton, Barkley Sound, Vancouver I., B.C.)
80 (oceanographic data, cruises, S Beaufort Sea)
83(1) (salinity, temperature, water currents, Campbell R. estuary, NE Pac.)
(2) (salinity, temperature, water currents, Campbell R. estuary, NE Pac.)
90 (oceanographic data, water temperature, time series, Nfld.)
91 (current observations, current meter data, Labrador Current)
93 (oceanographic data, water temperature, time series, Gulf of St. Lawrence, Scotia-Fundy Region, NW Atl.)
94 (oceanographic data, current meter data, hydrographic data, Georges Bank, N Atl.)
95 (current meter data, water temperature, salinity, N Baffin Bay, Arctic)
97 (oceanographic data, cruises, Beaufort Sea)
101F (chemical oceanography, sediments, pore water, Beaufort Sea)
CH 35 (temperature, salinity, sea ice, annual variations, Beaufort Sea)
38 (drifting data buoys, surface circulation, surface temperature, off Nfld., Labrador)
39 (oceanographic data, physical oceanography, time series analysis, summer, Labrador Shelf)
40 (tidal records, historical account, Saint John R., N.B.)

Odontoceti (*see* WHALES, TOOTHED)

OKLAHOMA STATE, USA
J 48(8) : 1476 (survival, abiotic factors, biotic factors, larvae, smallmouth bass, Baron Fork)

Ommastrephes bartrami (*see* SQUID, FLYING)

Oncorhynchus clarki (*see* TROUT, CUTTHROAT)
gorbuscha (*see* SALMON, PINK)
keta (*see* SALMON, CHUM)
kisutch (*see* SALMON, COHO)
mykiss (*see* TROUT, RAINBOW; *see also* TROUT, STEELHEAD)
nerka (*see* SALMON, SOCKEYE; *see also* KOKANEE)
spp. (see SALMON (Pacific in general))
tshawytscha (*see* SALMON, CHINOOK)

ONTARIO, LAKE, NORTH AMERICA
J 48(2) : 318 (PCBs, bioaccumulation, models, Salmonidae)
(8) : 1500 (ecosystems, ecosystem management)
: 1503 (geology, river basins, ecological management)
: 1517 (physical limnology, pollution dispersion, climate changes)
: 1529 (paleolimnology, nutrients, geological samples)
: 1539 (aquatic plants, nutrient cycles, food webs)
: 1546 (zooplankton, community composition, abundance)
: 1558 (abundance, community composition, pollution effects, macroinvertebrates)
: 1568 (pollution effects, chlorine compounds, spottail shiner)
: 1574 (food webs, nutrients, habitat improvement)
: 1581 (wetlands, resource conservation, limnological data)

: 1595 (sport fishing, sociological aspects, economic analysis)

ONTARIO (PROVINCE), CANADA
J 48(1) : 73 (bioaccumulation, phosphates, models, plankton, Jacks L., Bay of Quinte)
: 132 (mercury, bioaccumulation, environmental factors, walleye, northern pike, lakes)
: 140 (trophic structure, phosphorus, nitrogen, lakes)
(2) : 261 (bioaccumulation, chemical pollutants, Cyprinidae, St. Clair R., Detroit R.)
(3) : 356 (trophic levels, food chains, zooplankton, freshwater fishes, L. St. George, Haynes L.)
: 371 (PCBs, atmospheric deposition, bioaccumulation, aquatic organisms, lakes)
(6) : 1048 (hypolimnion, oxygen consumption, dentrification, methanogenesis, L. St. George)
(7) : 1293 (phosphorus cycle, epilimnion, Jacks L.)
(8) : 1408 (temperature preferences, water temperature, catchability, freshwater fishes, L. St. Clair)
: 1446 (age determination, length, sexual maturity, methodology, white sucker)
(9) : 1635 (water pollution treatment, species diversity, zooplankton, Sudbury)
: 1792 (environmental effects, winterkill, reproduction, pumpkinseed, Leeds Co.)
(10) : 1960 (pollution effects, chlorine compounds, biomass, plankton, lakes)
(11) : 2152 (phenotypic variations, zygotes, body size, brook trout, Mykiss L.)
: 2250 (migrations, geographical distribution, food availability, zooplankton, alewife)
(12) : 2509 (acidification, approximation, lakes)
: 2523 (acidification, biomass, production, fishes, lakes)
(S1) : 118 (introduced species, genetics, aquaculture, brown trout, rainbow trout, Ganaraska R.)
: 134 (introduced species, stocking organisms, evaluation, lake trout, L. Opeongo)
TF 1789 : 101 (aquaculture techniques, sexual maturity, control, rainbow trout, Thamesford)

Opsanus beta (*see* TOADFISH, GULF)

Orconectes rusticus (*see* CRAYFISH, RUSTY)
spp. (*see* CRAYFISH)
virilis (*see* CRAYFISH, VIRILE)

OREGON STATE, USA
J 48(2) : 196 (debris flow, ecological crisis, cutthroat trout, Quartz Creek)
: 248 (survival, brackishwater environment, inland water environment, coho salmon, Columbia R.)

Oreochromis niloticus (*see* TILAPIA, NILE)

Oscillatoria agardhii (*see* BACTERIA)

Osmerus mordax (*see* SMELT, RAINBOW)

OSTEICHTHYES (bony fishes)
SP 113 : 241 (geographical distribution, seasonal variations, demersal fishes, SE Gulf of St. Lawrence)

OYSTER, AMERICAN (*Crassostrea virginica*)
J 48(6) : 1117 (enzymatic activity, metabolism, salinity)

OYSTER, PACIFIC (*Crassostrea gigas*)
J 48(3) : 391 (growth, bioenergetics, models, Marennes-Oléron Bay, France)

P

PACIFIC OCEAN
SP 112 (check lists, distribution records, biogeography, Bivalvia, E Pac.)

Pagophilus groenlandicus (*see* SEAL, HARP)

Pandalus borealis (*see* SHRIMP, NORTHERN PINK)
jordani (*see* SHRIMP, OCEAN)
platyceros (*see* SHRIMP, SPOT)

Paralithodes camtschaticus (*see* CRAB, RED KING) (*Paralithodes camtschatica*)

Parophrys vetulus (*see* SOLE, ENGLISH)

PCBs (*see* POLYCHLORINATED BIPHENYLS; *see also* POLLUTION; *also* TOXICITY)

Penaeus esculentus (*see* PRAWN, COMMON TIGER)

PENNSYLVANIA STATE, USA
J 48(2) : 233 (phosphorus, sediments, spatial variations, Canadohta L.)
(10) : 1846 (food webs, acidification, zooplankton, lakes)

Perca flavescens (*see* PERCH, YELLOW)
fluviatilis (*see* PERCH, EUROPEAN)

PERCH, EUROPEAN (*Perca fluviatilis*)
J 48(1) : 28 (pollution effects, pulp wastes, population dynamics, Gulf of Bothnia)
(4) : 536 (distribution, feeding behavior, competition, ruffe, Sweden)
(7) : 1181 (environmental effects, water

temperature, pollution, population structure, Baltic Sea)

PERCH, PACIFIC OCEAN (*Sebastes alutus*)
MF 2080 (sample size, trawling, evaluation, NE Pac.)

PERCH, WHITE (*Morone americana*)
J 48(4) : 607 (feeding behavior, prey selection, interspecific relationships, yellow perch)
: 672 (environmental effects, winter, population dynamics)

PERCH, YELLOW (*Perca flavescens*)
J 48(4) : 607 (feeding behavior, prey selection, interspecific relationships, white perch)
: 672 (environmental effects, winter, population dynamics)
(6) : 1100 (food consumption, daily ration, bias, models, L. Erie)
(10) : 1919 (feeding behavior, prey selection, larvae, L. Mendota, WI)
(12) : 2449 (mercury, bioaccumulation, reservoirs, Man.)

Percina lenticula (*see* DARTER, FRECKLED)
nigrofasciata (*see* DARTER, BLACKBANDED)
sciera (*see* DARTER, DUSKY)

PERIPHYTON
J 48(2) : 173 (toxicity, arsenic compounds, Sormogen L., Sweden)
(10) : 1877 (samplers, evaluation, lakes, Que.)
: 1882 (samplers, evaluation, substrata, rivers)
: 1951 (nutrient reduction, biomass, herbivores)
(11) : 2061 (primary production, phosphorus, mesocosm, controlled conditions)
: 2285 (epiphytes, primary production, trophic structure, lakes, Que.)

Petromyzon marinus (*see* LAMPREY, SEA)

Phoca groenlandica (*see* SEAL, HARP)
hispida (*see* SEAL, RINGED)
vitulina (*see* SEAL, HARBOR)

Phocoena phocoena (*see* PORPOISE, HARBOR)

PHYSIOLOGY AND BIOCHEMISTRY
J 48(2) : 164 (temperature effects, osmoregulation, juveniles, Atlantic salmon)
: 209 (osmoregulation, salinity tolerance, *Pseudocarcinonemertes homari*
: 238 (biological stress, acidification, hormones, brook trout)
: 318 (chemical pollutants, bioaccumulation, models, freshwater fishes)
(3) : 382 (bioaccumulation, chemical elements, fatty acids, spot shrimp, NE Pac.)
: 405 (sexual maturity, fat dynamics, models, males, Atlantic salmon)
: 414 (blood, acidification, aluminum, rainbow trout)
: 434 (bioenergetics, food consumption, models, juveniles, walleye)
: 445 (pollution effects, pH, liver, proteins, Atlantic salmon, Medway R., Westfield R., N.S.)
(4) : 583 (swimming, bioenergetics, rainbow trout)
: 611 (metabolism, enzyme activity, lipids, bowfin)
(5) : 763 (light absorption, light scattering, cells, phytoplankton)
: 868 (acidosis, lactacidosis, natural populations, Atlantic salmon)
: 933 (digestion, stomach content, models, smallmouth bass, chinook salmon, coho salmon)
: 938 (chemoreception, homing behavior, olfaction, brook trout, Queen's R., RI, Angeline Brook, MA)
(6) : 1041 (environmental effects, water temperature, winter, Atlantic salmon)
: 1061 (toxicity, bioaccumulation, metals, gills, rainbow trout)
: 1117 (enzymatic activity, metabolism, salinity, American oyster)
: 1124 (hyperoxia, environmental effects, controlled conditions, *Nephelopsis obscura*, *Erpobdella punctata*)
(7) : 1201 (physiology, toxicity, selenium compounds, algae)
: 1212 (enzymatic activity, acclimation, water temperature, gulf toadfish)
: 1220 (acidification, tolerance, gills, Ephemeroptera)
: 1285 (physiology, environmental effects, suspended sediments, softshell)
: 1302 (photoperiods, gills, chlorides, Atlantic salmon)
: 1308 (phenotypes, enzymatic activity, rainbow trout, Lower Laurentian Great Lakes, North America)
(9) : 1761 (physiology, biological stress, challenge tests, coho salmon)
: 1800 (biochemical analysis, proteins, larvae, sealworm, NW Atl.)
: 1811 (metabolism, carbohydrates, proteins, rainbow trout)
(10) : 1829 (physiology, adsorption, sodium, gills, rainbow trout)
: 1905 (metabolism, vitamin C, embryos, brine shrimp)
: 1944 (swimming, environmental

effects, juveniles, American lobster)
: 1987 (acclimation, acidification, aluminum, brook trout, rainbow trout)
: 1989 (pollution effects, acidification, aluminum, ventilation, brook trout)
: 1996 (acclimation, aluminum, gills, juveniles, brook trout)
: 2006 (acclimation, aluminum, gills, juveniles, brook trout)
: 2016 (acclimation, aluminum, histology, gills, brook trout)
: 2028 (epithelia, pollution effects, acidification, rainbow trout)
(11) : 2083 (salinity effects, growth, metabolism, juveniles, chinook salmon, rainbow trout)
: 2100 (growth, photoperiods, light effects, aquaculture, Atlantic salmon)
: 2163 (photoperiods, water temperature, length, smolts, Atlantic salmon)
: 2212 (bioenergetics, seasonality, anadromous migrations, brook trout, Saumon R., Que.)
: 2223 (fins, anatomy, embryos, Atlantic salmon)
: 2385 (enzymatic activity, body size, correlation analysis)
: 2443 (endocrine glands, blood, photoperiods, kelts, Atlantic salmon)
: 2471 (lactation, parental behavior, feeding behavior, ringed seal, Arctic)
B 224 : 119 (echolocation, comparative studies, white whale, bottlenose dolphin)
: 129 (thermoregulation, fats, comparative studies, white whale, narwhal)
: 149 (acclimation, captivity, adrenal glands, adrenocorticotropic hormone, white whale)
: 159 (acclimation, captivity, immunity, antigens, white whale)
TF 1763 (enzyme activity, brain, pollution effects, insecticides, brook trout, Nfld.)
1789 : 73 (physiology, triploids, aquaculture techniques, Salmonidae)
DF 841 (stock identification, proteins, chum salmon, NE Pac.)
TS 5521 (chemical extraction, gelatin, skin, methodology)
5522 (chemical properties, lipids, polysaccharides, *Vibrio anguillarum*)
5544 (aquaculture, sperm, brood stocks, rainbow trout)
5547 (fecundity, eggs, sperm, mullets, Black Sea)

Pike, great northern (*see* PIKE, NORTHERN)

PIKE, NORTHERN (*Esox lucius*) (great northern pike)
J 48(1) : 132 (mercury, bioaccumulation, environmental factors, lakes, Ont.)
(8) : 1468 (mercury, bioaccumulation, reservoirs, Churchill R. diversion, Man.)
(12) : 2449 (mercury, bioaccumulation, reservoirs, Man.)
TF 1810F (habitat improvement, resource conservation, vulnerability, Gulf of St. Lawrence)

PILCHARD, AUSTRALIAN (*Sardinops neopilchardus*)
J 48(1) : 35 (age determination, otoliths, weight)

Placopecten magellanicus (*see* SCALLOP, SEA) (giant scallop)

PLAICE, AMERICAN (*Hippoglossoides platessoides*)
SP 113 : 269 (growth, body size, biological age, S Gulf of St. Lawrence)
TF 1800 (pollution effects, organic compounds, liver, Miramichi R. estuary, N.B.)

PLANKTON
J 48(1) : 73 (bioaccumulation, phosphates, bioassays, Jacks L., Bay of Quinte, Ont.)
: 116 (phytoplankton, zooplankton, trophic relationships, Green Bay, L. Michigan)
: 146 (zooplankton, prediction, models, lakes, Que., Hudson R., NY)
(2) : 173 (toxicity, arsenic compounds, Sormogen L., Sweden)
(3) : 340 (zooplankton, echo surveys, backscatter, models, Scotian Shelf, NW Atl.)
: 356 (zooplankton, trophic levels, food chains, L. St. George, Haynes L., Ont.)
(5) : 763 (phytoplankton, cells, light absorption, light scattering)
: 894 (plankton feeders, echo surveys, L. Michigan)
: 923 (bacterioplankton, production, benthic environment, L. Michigan, L. Superior)
(6) : 960 (biological poisons, geographical distribution, *Nitzschia pungens*, NE Pac.)
: 1022 (phytoplankton, acidification, species diversity, Experimental Lakes Area, NW Ont.)
: 1092 (picoplankton, aggregations, oligotrophic lakes, Sproat L., B.C.)
(7) : 1136 (batch culture, irradiance, nutrients, domoic acid, *Nitzschia pungens* f. *multiseries*)
: 1145 (phytoplankton, primary production, latitude, water color, lakes, FL)
: 1226 (nutrients, phosphorus,

nitrogen, Sproat L., B.C.)
(8) : 1419 (zooplankton, predation, Medusae, Bedford Basin, N.S.)
: 1546 (zooplankton, community composition, abundance, L. Ontario)
(9) : 1635 (zooplankton, species diversity, water pollution treatment, Sudbury, Ont.)
(10) : 1846 (zooplankton, food webs, acidification, lakes, NH, NY, PA)
: 1960 (pollution effects, chlorine compounds, biomass, lakes, Ont.)
: 1967 (limnoplankton, biomass, size spectra, lakes, Que.)
(11) : 2051 (zooplankton, cannibalism, zebra mussel, L. Erie)
: 2250 (zooplankton, food availability, alewife, L. Ontario)
SP 113 : 99 (food webs, pelagic environment, estuarine dynamics, Gulf of St. Lawrence)
TF 1796F (phytoplankton, toxicity, monitoring program, Gulf of St. Lawrence, St. Lawrence R. estuary)
DF 839 (production, phytoplankton, photosynthesis, Tuktoyaktuk Peninsula, Mackenzie delta, N.W.T.)
DH 76 (zooplankton, distribution, oceanographic data, Barkley Sound, Vancouver I., B.C.)

Pleuronectes americanus (*see* FLOUNDER, WINTER) (*Pseudopleuronectes americanus*)
ferrugineus (*see* FLOUNDER, YELLOWTAIL) (*Limanda ferruginea*)
vetulus (*see* SOLE, ENGLISH) (*Parophrys vetulus*)

POLLOCK, WALLEYE (*Theragra chalcogramma*)
J 48(1) : 91 (fishery surveys, distribution abundance, larvae, juveniles, Shelikof Strait, Gulf of Alaska, AK)
(9) : 1691 (stock assessment, echo surveys, spatial variations, Shelikof Strait, AK)

POLLUTION
J 48(1) : 28 (pollution effects, pulp wastes, population dynamics, European perch, Gulf of Bothnia)
: 39 (heavy metals, bioaccumulation, sediments, burrowing mayfly, Joannes L., Que.)
: 60 (thermal pollution, nuclear power plants, life history, eastern mosquitofish, Savannah R. Site, SC)
: 132 (mercury, bioaccumulation, environmental factors, walleye, northern pike, lakes, Ont.)
(2) : 173 (toxicity, arsenic compounds, phytoplankton, periphyton, Sormogen L., Sweden)
: 222 (heavy metals, benthos, sediments, Blackfoot R., MT)
: 238 (acidification, biological stress, hormones, brook trout)
: 261 (chemical pollution, bioaccumulation, habitat, Cyprinidae, St. Clair R., Detroit R., Ont.)
: 284 (bioaccumulation, hexachlorobiphenyl, sediments, opossum shrimp)
: 318 (chemical pollutants, bioaccumulation, models, freshwater fishes)
(3) : 371 (PCBs, atmospheric deposition, bioaccumulation, aquatic organisms, lakes, Ont.)
: 382 (bioaccumulation, chemical elements, spot shrimp, NE Pac.)
: 414 (acidification, aluminum, blood, rainbow trout)
: 445 (pollution effects, pH, liver, proteins, Atlantic salmon, Medway R., Westfield R., N.S.)
: 493 (suspended sediments, temperature effects, lethal limits, coho salmon, Fraser R., B.C.)
(4) : 546 (buffers, environmental effects, population dynamics, freshwater fishes, Sweden)
: 599 (pollution effects, acidification, models, lakes, E Canada)
(5) : 875 (toxicity, aromatic hydrocarbons, developmental stages, lake trout)
(6) : 968 (environmental management, biological stress, ecosystems, fresh water)
: 1022 (acidification, phytoplankton, species diversity, Experimental Lakes Area, NW Ont.)
: 1030 (acidification, buffers, optical properties, lakes, NY)
(7) : 1151 (pollution indicators, abnormalities, ligulae, antennae, *Procladius*)
: 1181 (environmental effects, population structure, European perch, Baltic Sea)
: 1220 (acidification, tolerance, gills, Ephemeroptera)
(8) : 1371 (pollution effects, pulp wastes, population characteristics, white sucker, L. Superior)
: 1468 (mercury, bioaccumulation, reservoirs, northern pike, walleye, lake whitefish, Churchill R. diversion, Man.)
: 1481 (pollution indicators, bioaccumulation, heavy metals, aquatic insects)
: 1517 (pollution dispersion, physical limnology, L. Ontario)
: 1558 (pollution effects, abundance, community composition, macroinvertebrates, L. Ontario)
: 1568 (pollution effects, chlorine

compounds, spottail shiner, L. Ontario)
(9) : 1635 (water pollution treatment, species diversity, zooplankton, Sudbury, Ont.)
: 1685 (pollution effects, reproduction, PCBs, bioassays, chinook salmon, L. Michigan)
: 1750 (pollution effects, aromatic hydrocarbons, sediments, English sole, Puget Sound, NE Pac.)
: 1804 (pollution effects, aromatic hydrocarbons, sediments, tumors, walleye, brown bullhead, L. Michigan, L. Erie)
(10) : 1846 (acidification, food webs, zooplankton, lakes, NH, NY, PA)
: 1960 (chlorine compounds, biomass, plankton, lakes, Ont.)
: 1987 (acidification, aluminum, acclimation, brook trout, rainbow trout)
: 1989 (pollution effects, acidification, aluminum, ventilation, brook trout)
: 1996 (aluminum, acclimation, gills, juveniles, brook trout)
: 2006 (aluminum, acclimation, gills, juveniles, brook trout)
: 2016 (aluminum, acclimation, histology, gills, brook trout)
: 2028 (pollution effects, acidification, epithelia, rainbow trout)
(11) : 2228 (pollution effects, crude oil, sediments, incubation, capelin, Conception Bay, Nfld.)
(12) : 2344 (hydrocarbons, sediments, historical account, Halifax Harbour, N.S.)
: 2449 (mercury, bioaccumulation, yellow perch, spottail shiner, lake whitefish, northern pike, walleye, reservoirs, Man.)
: 2499 (environmental impact, forest industry, debris flow, rivers, WA)
: 2509 (acidification, approximation, lakes, Ont.)
: 2523 (acidification, biomass, production, fishes, lakes, Ont.)
B 224 : 165 (pollution effects, bioaccumulation, chlorine compounds, white whale, St. Lawrence R. estuary, Arctic)
: 191 (pollution effects, bioaccumulation, heavy metals, selenium, white whale, St. Lawrence R. estuary, Arctic)
TF 1763 (pollution effects, insecticides, enzyme activity, brain, brook trout, Nfld.)
1792F (PCBs, bioaccumulation, sediments, waved whelk, Baie-des-Anglais, Gulf of St. Lawrence)
1800 (pollution effects, organic compounds, liver, American plaice, Miramichi R. estuary, N.B.)
1808F (environmental monitoring, community composition, marine fishes, St. Lawrence estuary)
DF 816 (acidification, fertilization, trace metals, Experimental lakes Area, NW Ont.)
854F (sediment pollution, nutrients, heavy metals, Laurentian Trough, NW Atl.)
TS 5536 (chemical pollution, hydrocarbons, World Polar Seas)
5541 (chemical pollution, aromatic hydrocarbons, distribution, Kitakyushu, Japan)
5545 (aerosols, surfactants, ions, correlation analysis)

POLYCHLORINATED BIPHENYLS (PCBs) (*see also* POLLUTION)
J 48(2) : 284 (bioaccumulation, hexachlorobiphenyl, opossum shrimp)
(3) : 371 (atmospheric deposition, bioaccumulation, aquatic organisms, sediments, lakes, Ont.)
TF 1792F (bioaccumulation, sediments, waved whelk, Baie-des-Anglais, Gulf of St. Lawrence)

POLYPODIUM HYDRIFORME (coelenterates)
TF 1772 (parasites, bibliographic information, lake sturgeon)

Pomoxis nigromaculatus (*see* CRAPPIE, BLACK)

POPULATION DYNAMICS
J 48(1) : 28 (pollution effects, pulp wastes, European perch, Gulf of Bothnia)
: 60 (life history, thermal pollution, nuclear power plants, eastern mosquitofish, Savannah R. Site, SC)
(2) : 215 (growth, reproductive energetics, spiny scallop, reddish scallop, giant rock scallop, NE Pac.)
: 248 (survival, brackishwater environment, inland water environment, coho salmon, Columbia R., OR.)
: 267 (fecundity, reproduction, rock crabs, N Atl., N Pac.)
(3) : 364 (reproduction, environmental effects, clutch size, *Diaptomus*, lakes, Que.)
: 448 (recruitment, survival, models, Atlantic herring, ME)
: 498 (population density, predation, snails, lake trout, AK)
: 503 (temperature effects, body size, life history, marine fishes)
(4) : 546 (environmental effects, buffers, freshwater fishes, Sweden)
: 555 (recruitment, age determination, analytical errors, population analysis)
: 569 (age composition, population

structure, lake herring, L. Superior)
: 631 (environmental effects, temporal variations, crabeater seal, leopard seal, Weddell seal, Antarctica)
: 672 (environmental effects, winter, white perch, yellow perch)
(5) : 768 (environmental impact, nuclear power plants, bluegill, Savannah R., SC)
: 875 (developmental stages, toxicity, aromatic hydrocarbons, lake trout)
: 909 (production, Salmonidae, L. Michigan)
(6) : 988 (survival, body size, smolts, sockeye salmon, Chilko L., B.C.)
: 1003 (recruitment, biotic factors, abiotic factors, Atlantic cod, haddock, NW Atl.)
: 1015 (sexual maturity, biological age, body size, brown trout, rivers, Norway)
: 1124 (hyperoxia, environmental effects, controlled conditions, *Nephelopsis obscura*, *Erpobdella punctata*)
(7) : 1176 (emergence, environmental effects, water temperature, light, grayling)
(8) : 1350 (recruitment, prediction, vertebrae counts, Pacific herring, Atlantic herring, Atlantic cod, haddock, NE Pac., NW Atl.)
: 1476 (survival, abiotic factors, biotic factors, larvae, smallmouth bass, Baron Fork, OK)
(9) : 1713 (mortality, recruitment, annual variations, larvae, Pacific sardine, California Current, NE Pac.)
(10) : 1820 (recruitment, variability, body size, marine fishes, temperate zones)
: 1896 (ontogeny, feeding behavior, juveniles, Atlantic salmon)
(11) : 2051 (feeding behavior, cannibalism, zooplankton, zebra mussel, L. Erie)
: 2152 (body size, zygotes, phenotypic variations, brook trout, Mykiss L., Ont.)
: 2228 (incubation, pollution effects, crude oil, sediments, capelin, Conception Bay, Nfld.)
: 2240 (recruitment, models, Pacific cod, Hecate Strait, NE Pac.)
: 2266 (moulting, males, snow crab)
(12) : 2296 (environmental effects, upwelling, recruitment, Pacific sardine, S CA)
: 2333 (fecundity, atresia, ovaries, Atlantic cod)
: 2377 (spawning, hatcheries, lake trout, Stony Island Reef, L. Ontario)
: 2408 (production, abundance, growth, blue mussel, Gulf of St. Lawrence, St. Lawrence R. estuary)
: 2429 (mortality, by catch, models, harbor porpoises, Bay of Fundy, Gulf of Maine, NW Atl.)
SP 113 : 231 (fecundity, environmental effects, digestive enzymes, *Calanus finmarchicus*, Gulf of St. Lawrence)
114 (fishery biology, fishermen, pack ice, harp seal, World Oceans)
TF 1762 (rearing, mortality, controlled conditions, larvae, snow crab, Atlantic lyre crab)
1789 : 1 (sexual maturity, control, aquaculture techniques, Salmonidae, Nfld.)
1817 (recruitment, population structure, snow crab, Bonne Bay, Nfld.)
MF 2019(6) (spawning grounds, geographical distribution, historical account, Pacific herring, W coast Vancouver I., B.C.)
2088 (fecundity, approximation, Pacific cod, off Vancouver I., B.C.)
DF 815 (biological data, growth, spawning, Arctic char, Nauyuk L., N.W.T.)
829 (biological data, life history, alewife, blueback herring, Mactaquac Dam, N.B.)
TS 5525 (sexual maturity, gonads, sea urchin, Soya I., Rebun I., Hokkaido, Japan)
5543 (reproductive cycle, seasonal variations, females, Mustelidae)
5546 (development, nutritional requirements, juveniles, grey seal, NW Atl.)
5547 (fecundity, eggs, sperm, mullets, Black Sea)

POPULATION STRUCTURE
J 48(4) : 569 (age composition, population dynamics, lake herring, L. Superior)
: 591 (length frequency, abundance, models, northern pink shrimp, Gulf of Maine, NW Atl.)
: 631 (environmental effects, temporal variations, crabeater seal, leopard seal, Weddell seal, Antarctica)
(5) : 811 (community composition, biological drift, aquatic insects, Ogeechee R., GA)
(7) : 1181 (environmental effects, water temperature, pollution, European perch, Baltic Sea)
(9) : 1606 (sex determination, DNA, chromosomes, chinook salmon)
: 1613 (age composition, models, red king crab, Bristol Bay, Bering Sea)
: 1679 (geographical distribution, morphology, threespine stickleback, blackspotted stickleback, New York Bight, NW Atl.)
(10) : 1838 (longevity, body size, growth,

anadromous populations, brown trout)
: 1951 (nutrient reduction, biomass, herbivores, periphyton)
(12) : 2324 (age composition, size-frequency, virile crayfish, Experimental Lakes Area, NW Ont.)
SP 113 : 303 (population characteristics, stock identification, Atlantic salmon, Gulf of St. Lawrence)
: 319 (check lists, aquatic communities, intertidal environment, SCUBA diving, Gulf of St. Lawrence)
B 224 : 59 (age, length-weight relationships, males, females, white whale, Hudson Bay, Canada)
: 69 (length, males, females, white whale, Nastapoka estuary, Hudson Bay, Canada)
TF 1767 (scale characteristics, juveniles, chinook salmon, Yukon R., Yuk.)
1817 (population dynamics, snow crab, Bonne Bay, Nfld.)
MF 2091 (echo surveys, widow rockfish, redstripe rockfish, yellowmouth rockfish, off N Vancouver I., B.C.)
DF 824 (biological data, coho salmon, Lachmach R., B.C.)
829 (biological data, life history, alewife, blueback herring, Mactaquac Dam, N.B.)

PORPOISE, HARBOR (*Phocoena phocoena*)
J 48(12) : 2429 (mortality, by catch, models, Bay of Fundy, Gulf of Maine, NW Atl.)

POWAN (*Coregonus lavaretus*) (whitefish)
J 48(6) : 995 (spawning behavior, echo surveys, Constance L., FRG)
(12) : 2307 (habitat, food availability, zooplankton, niches, L. Mjosa, Norway)

PRAWN, COMMON TIGER (*Penaeus esculentus*)
J 48(8) : 1431 (fecundity, seasonal variations, models, Torres Strait, Australia)

Prawn, spot (*see* SHRIMP, SPOT)

PREDATION AND COMPETITION
J 48(2) : 209 (predation, eggs, American lobster, *Pseudocarcinonemertes homari*)
: 243 (avoidance reactions, forage fish, natural populations, cultured populations, steelhead trout)
(3) : 498 (predation, population density, snails, lake trout, AK)
(4) : 536 (competition, ruffe, European perch, Sweden)
: 559 (predators, symbionts, nemerteans, eggs, red king crab, AK)
: 607 (feeding behavior, prey selection, interspecific relationships, white perch, yellow perch)
: 681 (prey selection, feeding behavior, interspecific relationships, blackbanded darter, dusky darter, freckled darter, Black Creek, MS)
(5) : 776 (trophic relationships, detritus feeders, ecosystems)
: 849 (predation, avoidance reactions, habitat selection, fishes, Sacramento squawfish, Eel R., CA)
: 857 (feeding behavior, distribution, interspecific relationships, brook trout, white sucker, Mastigouche Reserve, Que.)
: 909 (prey selection, alewife, bloater, Salmonidae, L. Michigan)
(6) : 1069 (predation, habitat selection, substrata, stoneflies)
(7) : 1235 (competition, microhabitat, rosyside dace, rainbow trout, Coweeta Creek, NC)
(8) : 1419 (predation, feeding behavior, Medusae, zooplankton, Bedford Basin, N.S.)
(9) : 1704 (competition, feeding behavior, largemouth bass, rainbow trout, Peter L., Paul L., MI)
: 1735 (feeding behavior, prey selection, brook trout, lakes, Laurentian Shield, Que.)
(11) : 2118 (feeding behavior, prey selection, food availability, Pacific hake, spiny dogfish, Vancouver I., B.C.)
(12) : 2403 (predation, mortality, injuries, daggertooth, Pacific salmons, N Pac.)
: 2491 (predation, temperature effects, northern squawfish, Pacific salmons, Columbia R., WA)
SP 113 : 277 (food consumption, models, predation, seabirds, Gulf of St. Lawrence)
TF 1769 (predation, harbor seal, Steller sea lion, California sea lion, Pacific salmons, Comox Harbour, Cowichan Bay, B.C.)
DF 821 (predation, eggs, Pacific herring, Lambert Channel, Strait of Georgia, NE Pac.)
TS 5523 (predators, Japanese flying squid, NW Pac.)

PRINCE EDWARD ISLAND (PROVINCE), CANADA
DF 814 (ground water, hydrology, habitat, fishes, Wilmot R.)

Procladius (*see* DIPTERA)

PRODUCTION
J 48(1) : 84 (phosphorus, temporal variations, stream waters, sediments, Hoxie Gorge Creek, NY)

: 105 (food webs, biomass, pelagic environment, L. Michigan)
: 116 (phytoplankton, zooplankton, trophic relationships, Green Bay, L. Michigan)
: 140 (trophic structure, phosphorus, nitrogen, models, lakes, Ont.)
(2) : 303 (secondary production, mesh selectivity, biological sampling, catch/effort, *Calanus finmarchicus*)
(3) : 442 (secondary production, trophodynamic cycle, detritus feeders, moose, Monument Creek, AK)
(5) : 923 (bacterioplankton, benthic environment, L. Michigan, L. Superior)
(7) : 1145 (primary production, phytoplankton, latitude, water color, lakes, FL)
(10) : 1909 (primary production, prediction, morphoedaphic index, freshwater lakes, Canada)
(11) : 2061 (primary production, phosphorus, periphyton, mesocosm)
: 2285 (primary production, epiphytes, trophic structure, lakes, Que.)
(12) : 2296 (primary production, environmental effects, coastal upwelling, pelagic fisheries, S CA)
: 2395 (chlorophylls, growth, sea ice, Chesterfield Inlet, N.W.T.)
SP 113 : 219 (primary production, physicochemical properties, trophic structure, lagoons, Magdalen Is., Gulf of St. Lawrence)
TF 1816 (hatcheries, chinook salmon, pink salmon, B.C.)
DF 839 (macrophytes, phytoplankton, photosynthesis, Tuktoyaktuk Peninsula, Mackenzie delta, N.W.T.)

Protothaca staminea (*see* LITTLENECK, PACIFIC)

Prymnesium parvum (*see* ALGAE)

Pseudocarcinonemertes homari (*see* NEMERTEA)

Pseudopleuronectes americanus (*see* FLOUNDER, WINTER)

Pseudoterranova decipiens (*see* SEALWORM)

Ptychocheilus grandis (*see* SQUAWFISH, SACRAMENTO)
oregonensis (*see* SQUAWFISH, NORTHERN)

PUMPKINSEED (*Lepomis gibbosus*)
J 48(1) : 123 (habitat, aquatic plants, feeding behavior, controlled conditions)
(9) : 1792 (environmental effects, winterkill, reproduction, Leeds Co., Ont.)

Pusa hispida (*see* SEAL, RINGED)

Q

QUEBEC (PROVINCE), CANADA
J 48(1) : 39 (heavy metals, bioaccumulation, sediments, burrowing mayfly, Joannes L.)
: 146 (zooplankton, prediction, models, lakes)
(3) : 364 (environmental effects, clutch size, reproduction, *Diaptomus*, lakes)
(5) : 857 (interspecific relationships, distribution, feeding behavior, brook trout, white sucker, Mastigouche Reserve)
(9) : 1735 (feeding behavior, prey selection, brook trout, lakes, Laurentian Shield)
(10) : 1877 (samplers, evaluation, periphyton, lakes)
: 1967 (limnoplankton, biomass, size spectra, lakes)
: 1979 (sampling, evaluation, trophic structure, lakes)
(11) : 2212 (anadromous migrations, seasonality, bioenergetics, brook trout, Saumon R.)
: 2285 (primary production, epiphytes, trophic structure, lakes)

Queen Charlotte Islands (*see* BRITISH COLUMBIA)

R

Rajidae (*see* SKATES)

REDFISH, ACADIAN (*Sebastes fasciatus*) (Labrador redfish)
J 48(4) : 640 (stock identification, electrophoresis, methodology, Gulf of St. Lawrence)

REDFISH, DEEPWATER (*Sebastes mentella*)
J 48(4) : 640 (stock identification, electrophoresis, methodology, Gulf of St. Lawrence)

Reinhardtius hippoglossoides (*see* HALIBUT, GREENLAND)

Renibacterium salmoninarum (BKD) (Bacterial kidney disease) (*see* BACTERIA)

REPRODUCTION
J 48(2) : 215 (reproductive energetics, spiny scallop, reddish scallop, giant rock scallop, NE Pac.)
: 267 (rock crabs, N Atl., N Pac.)
(3) : 364 (clutch size, environmental effects, *Diaptomus*, lakes, Que.)
(6) : 995 (spawning behavior, echo surveys, powan, Constance L., FRG)
: 1077 (oogenesis, spermatophores, *Boeckella*, *Calamoecia*, Australia)
(8) : 1431 (fecundity, seasonal

variations, models, common tiger prawn, Torres Strait, Australia)
(9) : 1685 (pollution effects, PCBs, bioassays, chinook salmon, L. Michigan)
: 1792 (environmental effects, winterkill, pumpkinseed, Leeds Co., Ont.)
(12) : 2377 (spawning, hatcheries, lake trout, Stony Island Reef, L. Ontario)
: 2408 (abundance, mooring buoys, blue mussel, Gulf of St. Lawrence, St. Lawrence R. estuary)
(S1) : 58 (introduced species, genetics, largemouth bass, FL)
MF 2097 (white whale, Mackenzie R. estuary, N.W.T.)
TS 5525 (sexual maturity, gonads, sea urchin, Soya I., Rebun I., Hokkaido, Japan)
5543 (reproductive cycle, seasonal variations, females, Mustelidae)

RHODE ISLAND STATE, USA
J 48(5) : 938 (chemoreception, homing behavior, olfaction, brook trout, Queen's R.)

ROCKFISH, REDSTRIPE (*Sebastes proriger*)
MF 2091 (behavior, population structure, echo surveys, off N Vancouver I., B.C.)

ROCKFISH, WIDOW (*Sebastes entomelas*)
MF 2091 (behavior, population structure, echo surveys, off N Vancouver I., B.C.)

ROCKFISH, YELLOWEYE (*Sebastes ruberrimus*)
MF 2069 (catch statistics, harvesting, catch/effort, NE Pac.)

ROCKFISH, YELLOWMOUTH (*Sebastes reedi*)
MF 2091 (behavior, population structure, echo surveys, off N Vancouver I., B.C.)

ROCKFISH, YELLOWTAIL (*Sebastes flavidus*)
TF 1777 (parasites, Cape Scott, Destruction I., NE Pac.)

ROCKFISHES (Scorpaenidae)
J 48(7) : 1264 (echo surveys, species diversity, Vancouver I., B.C.)

ROCKFISHES (*Sebastes* spp.) (*see also* names of species)
MF 2069 (catch statistics, harvesting, catch/effort, NE Pac.)
2091 (echo surveys, behavior, population structure, off N Vancouver I., B.C.)

RUFFE (*Gymnocephalus cernuus*)
J 48(4) : 536 (distribution, feeding behavior, competition, European perch, Sweden)

S

SABLEFISH (*Anoplopoma fimbria*) (blackcod)
MF 2012 (fishery surveys, biological data, SW coast Vancouver I., B.C.)

Salmo salar (*see* SALMON, ATLANTIC)
trutta (*see* TROUT, BROWN)

SALMON (Pacific in general) (*Oncorhynchus* spp.)
J 48(12) : 2403 (mortality, injuries, predators, daggertooth, N Pac.)
: 2491 (temperature effects, predation, northern squawfish, Columbia R., WA)
(S1) : 124 (introduced species, genetics, aquaculture, natural populations, NW North America)
TF 1502 (fishery management, commercial trolling, S B.C.)
1769 (predation, harbor seal, California sea lion, Steller sea lion, Comox Harbour, Cowichan Bay, B.C.)
1791 (manuals, data collections, escapement, NE Pac.)
MF 1824 (dissolved oxygen, water quality, Fraser R., B.C.)
2067 (fishery surveys, fishways, escapement, Somass R., B.C.)
2087 (sport fishing statistics, creel surveys, Strait of Georgia, NE Pac.)
2093(1) (environmental impact, hydroelectric power plants, anadromous species, B.C.)
2102 (fishery management, trolling, landing statistics, NE Pac.)
2117 (food organisms, prey selection, cages, Quadra I., B.C.)
DF 788 (fishery surveys, counting fence, Babine R., B.C.)
792 (fishery surveys, counting fence, Babine R., B.C.)
823 (fishery surveys, fishways, stock assessment, Meziadin R., Nass R., B.C.)
835 (experimental fishing, gillnets, catch statistics, Nass R., B.C.)
836 (catch statistics, food fish, Indian fishery, Fraser R., B.C.)
837 (catch statistics, biological data, juveniles, Queen Charlotte Is., Vancouver I., B.C.)
EC 46 (market research, economic analysis, aquaculture products, Canada)
70 (market research, cured products, USA)
97 (fishery economics, aquaculture products, pricing, Canada)

SALMON, ATLANTIC (*Salmo salar*)
J 48(1) : 2 (fishery surveys, catch/effort, population number, juveniles, Labrador Sea)
(2) : 164 (temperature effects, osmoregulation, juveniles)
: 170 (population genetics,

biopolymorphism, transplantation, Esva R., Spain)
(3) : 405 (sexual maturity, fat dynamics, models, males)
: 426 (escapement, cultured organisms, Norway)
: 429 (chromatography, stock identification, astaxanthin, Norway)
: 445 (pollution effects, pH, liver, proteins, Medway R., Westfield R., N.S.)
(4) : 577 (stock identification, DNA, anadromous species, nonanadromous species, Gambo R., Nfld.)
(5) : 868 (physiology, acidosis, lactacidosis, natural populations)
: 884 (stock identification, DNA, North America, Greenland, NW Atl.)
(6) : 1041 (physiology, environmental effects, water temperature, winter)
(7) : 1302 (photoperiods, gills, chlorides)
(9) : 1655 (stock identification, RNA, ribosomes)
(10) : 1896 (feeding behavior, ontogeny, juveniles)
(11) : 2100 (growth, photoperiods, light effects, aquaculture)
: 2163 (photoperiods, water temperature, length, smolts)
: 2223 (fins, anatomy, embryos)
(12) : 2316 (biological poisons, fish kill, *Prymnesium parvum*, fjords, Norway)
: 2443 (endocrine glands, blood, photoperiods, kelts)
SP 113 : 303 (population characteristics, stock identification, fishery management, Gulf of St. Lawrence)
: 313 (stock identification, scales, discriminant analysis, St. Lawrence R. estuary)
TF 1789 : 15 (aquaculture techniques, selective breeding, triploids, Scotland)
: 47 (aquaculture techniques, triploids, control, females, Tasmania)
: 81 (aquaculture techniques, triploids, sex-reversal)
: 89 (aquaculture techniques, marketing, triploids, Nfld.)
: 97 (aquaculture techniques, triploids, control)
1790 (sport fishing, exploitation, tagging, Miramichi R., N.B.)
1810F (habitat improvement, resource conservation, vulnerability, Gulf of St. Lawrence)
2076 (habitat improvement, limnological surveys, Dunbar Stream, Nashwaak R., N.B.)
DF 838 (catch statistics, commercial fishing, fishery management, Nfld., Labrador)
852 (sport fishing, catch statistics, angling, Maritime Provinces)
IF 208 (aquaculture, brood stocks, polyploids, Nfld.)
EC 46 (market research, economic analysis, aquaculture products, Canada)
70 (market research, cured products, USA)
90 (economic analysis, commercial fishing, aquaculture, sport fishing, N.B.)
95 (fishery economics, aquaculture, models, B.C.)
97 (fishery economics, aquaculture products, pricing, Canada)

SALMON, CHINOOK (*Oncorhynchus tshawytscha*)
J 48(5) : 933 (models, food, digestion, smallmouth bass)
(9) : 1606 (sex determination, DNA, chromosomes)
: 1685 (PCBs, bioassays, pollution effects, reproduction, L. Michigan)
(10) : 1872 (migrations, fishways, models, juveniles, Lower Granite Dam, Snake R., ID)
(11) : 2083 (salinity effects, growth, metabolism, juveniles)
TF 1759 (geographical distribution, abundance, feeding behavior, SW Vancouver I., B.C.)
1767 (population structure, scale characteristics, juveniles, Yukon R., Yuk.)
1815 (fishery management, escapement, fishways, Stamp R., B.C.)
1816 (production, hatcheries, B.C.)
MF 2024 (stock assessment, landing statistics, escapement, Johnstone Strait, NE Pac.)
2062 (catch statistics, total mortality, seining, Johnstone Strait, Sabine Channel, Strait of Juan de Fuca, NE Pac.)
2074 (fishery surveys, population number, escapement, Kitsumkalum R., B.C.)
2085 (stock assessment, escapement, mortality, Harrison R., B.C.)
2096 (aquaculture techniques, cage culture, Squamish R., Vancouver I., B.C.)
2111 (fishery surveys, escapement, Harrison R., B.C.)
2124 (tagging, stock assessment, escapement, Campbell R., Quinsam R., B.C.)
EC 95 (fishery economics, aquaculture, models, B.C.)

SALMON, CHUM (*Oncorhynchus keta*)
J 48(4) : 661 (phenotypes, seasonal variations, ecotypes, Vancouver I., B.C.)
MF 2107 (fishery management, catch statistics, stock assessment, Johnstone Strait, Fraser R., B.C.)
DF 841 (stock identification, proteins, NE Pac.)

SALMON, COHO (*Oncorhynchus kisutch*)
J 48(2) : 248 (survival, brackishwater environment, inland water environment, Columbia R., OR)
(3) : 493 (lethal limits, suspended sediments, temperature effects, Fraser R., B.C.)
(5) : 933 (models, food, digestion, smallmouth bass)
(9) : 1670 (migrations, juveniles, Chehalis R., Grays Harbor estuary, WA)
: 1761 (physiology, biological stress, challenge tests)
: 1783 (morphology, natural populations, cultured populations, genetics)
TF 1722 (fishery surveys, stock assessment, SE Vancouver I., B.C.)
1759 (geographical distribution, abundance, feeding behavior, SW Vancouver I., B.C.)
1765 (transplantation, fingerlings, sterilization, Jasper L., Burnt-out L., B.C.)
1780 (morphology, stock identification, population genetics, Keogh R., B.C.)
1816 (production, hatcheries, B.C.)
MF 2068 (stock assessment, tagging, escapement, Salmon R., B.C.)
2079 (stock assessment, tagging, escapement, Salmon R., B.C.)
2114 (stock assessment, tagging, escapement, survival, Salmon R., B.C.)
2116 (fishery surveys, habitat selection, research programs, B.C.)
DF 523 (transplantation, migrations, Quinsam Watershed, B.C.)
524 (transplantation, migrations, Quinsam Watershed, B.C.)
812 (tagging, traps, smolts, Lachmach R., B.C.)
824 (biological data, sampling, tagging, Lachmach R., B.C.)
830 (stock assessment, fish counters, autumn, Lachmach R., B.C.)
832 (stock assessment, fish counters, smolts, Lachmach R., B.C.)

SALMON, PINK (*Oncorhynchus gorbuscha*)
J 48(8) : 1396 (stock identification, electrophoresis, evaluation)
(9) : 1744 (selective breeding, hybrids)
MF 2024 (fishery management, landing statistics, escapement, Johnstone Strait, NE Pac.)
2112 (stock assessment, catch statistics, escapement, Johnstone Strait, NE Pac.)

SALMON, SOCKEYE (*Oncorhynchus nerka*)
J 48(2) : 254 (tagging, methodology, mortality, models)
(4) : 526 (harvesting, resource conservation, numerical analysis, Adams R., B.C.)
: 623 (fishery management, ocean circulation, annual variations, models, NE Pac.)
(5) : 799 (models, migrations, homing behavior, adults, NE Pac.)
(6) : 988 (survival, body size, smolts, Chilko L., B.C.)
TF 1756 (habitat utilization, distribution, Quesnel L., B.C.)
1758 (fishery surveys, escapements, tagging, Henderson L., Vancouver I., B.C.)
1789 : 37 (aquaculture techniques, sterilization, triploids, females, W Vancouver, B.C.)
DF 810 (echo surveys, escapement, Rivers Inlet, B.C.)
813 (catch statistics, purse seines, geographical distribution, juveniles, Alberni Inlet, Barkley Sound, B.C.)
825 (stock assessment, catch statistics, trawling, Fraser R., B.C.)
843 (fishery surveys, fish counters, escapement, Docee R., B.C.)

SALMONIDAE
J 48(1) : 99 (viral diseases, RNA, N CA)
(2) : 318 (PCBs, bioaccumulation, models, L. Ontario)
(5) : 909 (production, prey selection, alewife, bloater, L. Michigan)
: 945 (aquaculture, hazard assessment, genetics, cultured populations, natural populations)
(S1) : 66 (introduced species, genetics, ecological effects, North America)
: 95 (stock identification, DNA, genomes, methodology)
TF 1789 (aquaculture techniques, genetics, triploids, conferences, females)
: 1 (aquaculture techniques, sexual maturity, control, Nfld.)
: 73 (aquaculture techniques, triploids, physiology)
TS 5539 (boil disease, vaccination, disease control, Norway)
EC 94 (economic analysis, aquaculture enterprises, financial management, Canada)

Salvelinus alpinus (*see* CHAR, ARCTIC)
confluentus (*see* TROUT, BULL)
fontinalis (*see* TROUT, BROOK)
leucomaenis (*see* CHAR, WHITE-SPOTTED)
malma (*see* DOLLY VARDEN)
namaycush (*see* TROUT, LAKE)

SARDINE, PACIFIC (*Sardinops sagax caerulea*)
J 48(9) : 1713 (mortality, recruitment, annual variations, larvae, California Current, NE Pac.)
(12) : 2296 (environmental effects, coastal upwelling, recruitment, S CA)

SARDINE, SPANISH (*Sardinella aurita*)
J 48(5) : 792 (stock identification, electrophoresis, E Gulf of Mexico)

Sardinella aurita (*see* SARDINE, SPANISH)

Sardinops neopilchardus (*see* PILCHARD, AUSTRALIAN)
sagax caerulea (*see* SARDINE, PACIFIC)

SARGASSO SEA
J 48(4) : 694 (check lists, size distribution, vertical distribution, fishes)

Saxidomus giganteus (*see* CLAM, BUTTER)

SCALLOP, GIANT ROCK (*Crassedoma giganteum*) (*Crassadoma gigantea*)
J 48(2) : 215 (growth, reproductive energetics, NE Pac.)

SCALLOP, ICELAND (*Chlamys islandica*)
TS 5530 (scallop fisheries, fishery technology, processed fishery products, Norway)

SCALLOP, REDDISH (*Chlamys rubida*)
J 48(2) : 215 (growth, reproductive energetics, NE Pac.)

SCALLOP, SEA (*Placopecten magellanicus*) (giant scallop)
SP 113 : 261 (growth, comparative studies, S Gulf of St. Lawrence)
TF 1804 (catch statistics, catch/effort, historical account, Gulf of St. Lawrence)

SCALLOP, SPINY (*Chlamys hastata*)
J 48(2) : 215 (growth, reproductive energetics, NE Pac.)

SCALLOPS (*Argopecten* spp.)
TS 5529 (processing fishery products, methodology)

Scomber scombrus (*see* MACKEREL, ATLANTIC)

Scorpaenidae (*see* ROCKFISHES)

SCOTIA-FUNDY REGION, NORTHWEST ATLANTIC OCEAN
DH 93 (oceanographic data, water temperature, time series)
EC 103F (fishing vessels, performance assessment, cost analysis)
109 (fishery economics, pricing, American lobster)

SCOTIAN SHELF, NORTHWEST ATLANTIC OCEAN
J 48(3) : 340 (zooplankton, echo surveys, backscatter, models)

SCOTLAND
TF 1789 : 15 (aquaculture techniques, selective breeding, triploids, Atlantic salmon)

SCULPIN, FOURHORN (*Myoxocephalus quadricornis*)
DF 847 (catch statistics, sampling, gillnets, Mackenzie R. estuary, N.W.T.)

SEA LION, CALIFORNIA (*Zalophus californianus*)
TF 1769 (local movements, predation, Pacific salmons, Comox Harbour, Cowichan Bay, B.C.)

SEA LION, STELLER (*Eumetopias jubatus*)
TF 1769 (local movements, predation, Pacific salmons, Comox Harbour, Cowichan Bay, B.C.)

SEA URCHIN, [common Japanese] (*Anthocidaris crassispina*)
TS 5532 (catching methods, fishing gear, Hokkaido, Japan)

SEA URCHIN, JAPANESE (*Strongylocentrotus intermedius*)
TS 5525 (sexual maturity, gonads, Soya I., Rebun I., Hokkaido, Japan)
5527 (tagging, dyes, methodology, Hokkaido, Japan)
5528 (aquaculture, growth, juveniles, Hokkaido, Japan)
5532 (catching methods, fishing gear, Hokkaido, Japan)
5533 (seed production, aquaculture, costs, Hokkaido, Japan)

SEAL, CRABEATER (*Lobodon carcinophagus*)
J 48(4) : 631 (environmental effects, temporal variations, population dynamics, Antarctica)

SEAL, GREY (*Halichoerus grypus*) (gray seal)
TS 5546 (development, nutritional requirements, juveniles, NW Atl.)

SEAL, HARBOR (*Phoca vitulina*)
TF 1769 (local movements, predation, Pacific salmons, Comox Harbour, Cowichan Bay, B.C.)

SEAL, HARP (*Phoca groenlandica*) (*Pagophilus groenlandicus*)
J 48(11) : 2180 (feeding behavior, summer, Barents Sea)
SP 114 (population dynamics, fishery biology, fishermen, pack ice, World Oceans)

SEAL, LEOPARD (*Hydrurga leptonyx*)
J 48(4) : 631 (environmental effects, temporal variations, population dynamics, Antarctica)

SEAL, NORTHERN FUR (*Callorhinus ursinus*)
J 48(12) : 2436 (tagging, handling, growth, Pribilof I., AK)
TF 1764 (migrations, N Pac.)

SEAL, RINGED (*Phoca hispida*) (*Pusa hispida*)
J 48(12) : 2471 (lactation, parental behavior, feeding behavior, Arctic)

SEAL, WEDDELL (*Leptonychotes weddellii*)
J 48(4) : 631 (environmental effects, temporal variations, population dynamics, Antarctica)

SEALWORM (*Pseudoterranova decipiens*)
J 48(9) : 1623 (parasitism, tissues, Atlantic cod, rainbow trout)
: 1800 (biochemical analysis, proteins, larvae, NW Atl.)

SEATROUT, SPOTTED (*Cynoscion nebulosus*)
J 48(3) : 487 (gear selectivity, gillnets, models, LA)

Sebastes alutus (*see* PERCH, PACIFIC OCEAN)
entomelas (*see* ROCKFISH, WIDOW)
fasciatus (*see* REDFISH, ACADIAN)
flavidus (*see* ROCKFISH, YELLOWTAIL)
mentella (*see* REDFISH, DEEPWATER)
proriger (*see* ROCKFISH, REDSTRIPE)
reedi (*see* ROCKFISH, YELLOWMOUTH)
ruberrimus (*see* ROCKFISH, YELLOWEYE)
spp. (*see* ROCKFISHES)

SHAD, AMERICAN (*Alosa sapidissima*) (Atlantic shad)
J 48(9) : 1724 (stock identification, DNA, cell organelles, coasts, Canada, USA, NW Atl.)
TF 1810F (habitat improvement, resource conservation, vulnerability, Gulf of St. Lawrence)
DF 842 (landing statistics, estuarine fisheries, Gulf of St. Lawrence)

Shad, Atlantic (*see* SHAD, AMERICAN)

SHARKS (Squaliformes)
TS 5521 (chemical extraction, gelatin, skin, methodology)

SHELLFISH (*see also* names of species)
J 48(6) : 960 (biological poisons, geographical distribution, *Nitzschia pungens*, NE Pac.)
(11) : 2109 (growth, mathematical analysis)
SP 113 : 153 (paralytic shellfish poison, transport processes, water circulation, Gulf of St. Lawrence)

SHINER, SPOTTAIL (*Notropis hudsonius*)
J 48(8) : 1568 (pollution effects, chlorine compounds, L. Ontario)
(12) : 2449 (mercury, bioaccumulation, reservoirs, Man.)

SHRIMP, BRINE (*Artemia salina*)
J 48(10) : 1905 (metabolism, vitamin C, embryos)

SHRIMP, GHOST (*Caprella septentrionalis*)
TS 5534 (parasites, hosts, *Contracaecum*, White Sea)

SHRIMP, NORTHERN PINK (*Pandalus borealis*)
J 48(4) : 591 (length frequency, abundance, models, Gulf of Maine, NW Atl.)

SHRIMP, OCEAN (*Pandalus jordani*) (pink shrimp)
DF 807 (fishery surveys, catch statistics, cruises, Vancouver I., B.C.)
808 (fishery surveys, catch statistics, cruises, Vancouver I., B.C.)
820 (fishery surveys, biomass, Vancouver I., B.C.)

SHRIMP, OPOSSUM (*Mysis relicta*)
J 48(1) : 67 (vertical migrations, diurnal variations, acoustic surveys, Okanagan L., B.C.)
(2) : 284 (bioaccumulation, hexachlorobiphenyl, sediments)

Shrimp, pink (*see* SHRIMP, OCEAN)

SHRIMP, SPOT (*Pandalus platyceros*) (spot prawn)
J 48(3) : 382 (bioaccumulation, chemical elements, fatty acids, NE Pac.)
(5) : 784 (trap nets, design, evaluation, Saanich Inlet, NE Pac.)

SILVERSIDE, ATLANTIC (*Menidia menidia*)
DF 842 (landing statistics, estuarine fisheries, Gulf of St. Lawrence)

SKATES (Rajidae)
SP 113 : 241 (geographical distribution, seasonal variations, SE Gulf of St. Lawrence)
TS 5521 (chemical extraction, gelatin, skin, methodology)

SMELT, RAINBOW (*Osmerus mordax*)
TF 1810F (habitat improvement, resource conservation, vulnerability, Gulf of St. Lawrence)
DF 842 (landing statistics, estuarine fisheries, Gulf of St. Lawrence)
847 (catch statistics, sampling, gillnets, Mackenzie R. estuary, N.W.T.)

SNAILS (pulmonates)
J 48(3) : 498 (population density, predation, *Lymneae elodes*, lake trout, AK)

SOFTSHELL (*Mya arenaria*) (softshell clam)
J 48(7) : 1285 (environmental effects, suspended sediments, growth, physiology)

SOLE, ENGLISH (*Pleuronectes vetulus*) (*Parophrys vetulus*)
J 48(9) : 1750 (pollution effects, aromatic hydrocarbons, sediments, Puget Sound, NE Pac.)

SOUTH CAROLINA STATE, USA
J 48(1) : 60 (thermal pollution, nuclear

power plants, life history, eastern mosquitofish, Savannah R. Site)
(5) : 768 (environmental impact, nuclear power plants, population dynamics, feeding behavior, bluegill, Savannah R.)

SPAIN
J 48(2) : 170 (population genetics, biopolymorphism, transplantation, Atlantic salmon, Esva R.)

Spirurata (*see* NEMATODA)

SPORT FISHING
J 48(8) : 1595 (sociological aspects, economic analysis, L. Ontario)
TF 1790 (exploitation, tagging, Atlantic salmon, Miramichi R., N.B.)
MF 2087 (catch statistics, creel surveys, Pacific salmons, demersal fisheries, Strait of Georgia, NE Pac.)
DF 851 (catch statistics, biological data, angling, Arctic char, Freshwater Creek, N.W.T.)
852 (catch statistics, angling, Atlantic salmon, Maritime Provinces)
EC 90 (economic analysis, Atlantic salmon, N.B.)

Squaliformes (*see* SHARKS)

Squalus acanthias (*see* DOGFISH, SPINY)

SQUAWFISH, NORTHERN (*Ptychocheilus oregonensis*)
J 48(12) : 2491 (feeding behavior, temperature effects, predation, Pacific salmons, Columbia R., WA)

SQUAWFISH, SACRAMENTO (*Ptychocheilus grandis*)
J 48(5) : 849 (predation, avoidance reactions, habitat selection, fishes, Eel R., CA)

SQUID, FLYING (*Ommastrephes bartrami*)
TF 1750 (parasites, helminths, NE Pac.)

SQUID, JAPANESE FLYING (*Todarodes pacificus*)
TS 5523 (catch statistics, food availability, predation, NW Pac.)

ST. LAWRENCE, GULF OF
J 48(4) : 640 (stock identification, electrophoresis, methodology, deepwater redfish, Acadian redfish)
(5) : 843 (biomass, range, catchability, Atlantic cod)
(7) : 1167 (migrations, tagging, males, snow crab)
(11) : 2040 (stock identification, electrophoresis, morphology, capelin)
(12) : 2408 (production, abundance, growth, blue mussel)
SP 113 : (oceanography, fishery biology, estuarine dynamics, conferences)
: 57 (physical oceanography, estuarine dynamics, variability)
: 91 (chemical oceanography, estuarine dynamics)
: 99 (food webs, plankton, estuarine dynamics, pelagic environment)
: 125 (fishery resources, commercial fishing, fishery biology)
: 139 (water temperature, salinity, variability, deep water)
: 149 (oceanographic data, current spectra, seasonal variations, Gaspé Current)
: 153 (surface circulation, transport processes, paralytic shellfish poison)
: 161 (environmental effects, climate, hydrography, recruitment, American lobster)
: 179 (environmental effects, winds, runoff, landing statistics, American lobster)
: 189 (microfossils, sediments, spatial variations)
: 201 (nutrient dynamics, biota, ice, Magdalen Is.)
: 209 (physicochemical properties, trophic structure, nutrients, lagoons, Magdalen Is.)
: 219 (physicochemical properties, trophic structure, primary production, lagoons, Magdalen Is.)
: 231 (environmental effects, digestive enzymes, fecundity, *Calanus finmarchicus*)
: 241 (geographical distribution, seasonal variations, demersal fishes, skates, SE Gulf of St. Lawrence)
: 261 (growth, comparative studies, sea scallop, S Gulf of St. Lawrence)
: 269 (growth, body size, biological age, American plaice)
: 277 (food consumption, models, predation, seabirds)
: 293 (fishery surveys, commercial fisheries, rivers, estuaries, bays)
: 303 (population characteristics, stock identification, fishery management, Atlantic salmon)
: 319 (check lists, aquatic communities, intertidal environment, SCUBA diving)
: 335 (bibliographies, marine ecology, estuarine dynamics)
TF 1766F (water mixing, sediment transport, models, Havre aux Basques Lagoon, Magdalen Is.)
1773F (trap nets, yield, gear selectivity, Atlantic rock crab, American lobster, Bay of Chaleur)
1792F (bioaccumulation, PCBs, sediments, waved whelk, Baie-des-Anglais)
1795F (landing statistics, environmental factors, winds, Atlantic cod)
1796F (phytoplankton, toxicity,

monitoring program)
1804 (catch statistics, catch/effort, historical account, sea scallop)
1810F (resource conservation, habitat improvement, vulnerability, commercial species)
1828 (age determination, methodology, growth, white hake)
2089F (habitat, biological properties, physical properties, fishes, lagoons, Bay of Chaleur)
DF 842 (landing statistics, estuarine fisheries)
IF 206 (conferences, habitat, research)
DH 93 (oceanographic data, water temperature, time series)
EC 102 (economic analysis, fishing gear, fishing vessels, demersal fisheries)

ST. LAWRENCE RIVER; ST. LAWRENCE RIVER ESTUARY
J 48(11) : 2040 (stock identification, electrophoresis, morphology, capelin, St. Lawrence R. estuary)
(12) : 2408 (production, abundance, growth, blue mussel, St. Lawrence R. estuary)
SP 113 : 189 (microfossils, sediments, spatial variations, St. Lawrence R. estuary)
: 313 (stock identification, scales, discriminant analysis, Atlantic salmon, St. Lawrence R. estuary)
B 224 : 165 (pollution effects, bioaccumulation, chlorine compounds, white whale)
: 191 (pollution effects, bioaccumulation, heavy metals, selenium, white whale)
TF 1796F (phytoplankton, toxicity, monitoring program, St. Lawrence R. estuary)
1808F (environmental monitoring, community composition, marine fishes, St. Lawrence R. estuary)

STICKLEBACK, BLACKSPOTTED (*Gasterosteus wheatlandi*)
J 48(9) : 1679 (geographical distribution, population structure, morphology, New York Bight, NW Atl.)

STICKLEBACK, THREESPINE (*Gasterosteus aculeatus*)
J 48(9) : 1679 (geographical distribution, population structure, morphology, New York Bight, NW Atl.)

Stizostedion vitreum vitreum (*see* WALLEYE)

STONEFLIES (Perlodidae)
J 48(6) : 1069 (habitat selection, substrata, predation, *Megarcys signata*)

Strongylocentrotus intermedius (*see* SEA URCHIN, JAPANESE)

STURGEON, ATLANTIC (*Acipenser oxyrhynchus*) (yellow sturgeon)
TF 1810F (habitat improvement, resource conservation, vulnerability, Gulf of St. Lawrence)

STURGEON, LAKE (*Acipenser fulvescens*)
TF 1772 (parasites, bibliographic information, *Polypodium hydriforme*)

Sturgeon, yellow (*see* STURGEON, ATLANTIC)

STURGEONS (*Acipenser* spp.)
DF 836 (catch statistics, food fish, Indian fishery, Fraser R., B.C.)

SUCKER, WHITE (*Catostomus commersoni*)
J 48(5) : 857 (interspecific relationships, distribution, feeding behavior, brook trout, Mastigouche Reserve, Que.)
(8) : 1371 (pollution effects, pulp wastes, population characteristics, L. Superior)
: 1446 (age determination, length, sexual maturity, methodology, Ont.)

SUPERIOR, LAKE, NORTH AMERICA
J 48(4) : 569 (population dynamics, population structure, age composition, lake herring)
(5) : 923 (bacterioplankton, production, benthic environment)
(8) : 1371 (pollution effects, pulp wastes, population characteristics, white sucker)

SWEDEN
J 48(2) : 173 (toxicity, arsenic compounds, phytoplankton, periphyton, Sormogen L.)
(4) : 536 (distribution, feeding behavior, competition, ruffe, European perch)
: 546 (buffers, environmental effects, population dynamics, freshwater fishes)

T

Tapes philippinarum (*see* LITTLENECK, JAPANESE)

TASMANIA
TF 1789 : 47 (aquaculture techniques, triploids, control, females, Atlantic salmon)

THAILAND
J 48(2) : 183 (aquaculture, stocking density, trophodynamic cycle, food webs, Nile tilapia)

Theragra chalcogramma (*see* POLLOCK, WALLEYE)

Thunnus alalunga (*see* ALBACORE)
albacares (*see* TUNA, YELLOWFIN)
maccoyii (*see* TUNA, SOUTHERN BLUEFIN)
obesus (*see* TUNA, BIGEYE)
spp. (*see* TUNAS)
thynnus (*see* TUNA, BLUEFIN)

Thymallus arcticus (*see* GRAYLING, ARCTIC)
thymallus (*see* GRAYLING)

TILAPIA, NILE (*Oreochromis niloticus*)
J 48(2) : 183 (aquaculture, stocking density, trophodynamic cycle, food webs, Thailand)
(9) : 1662 (growth, biological stress, scale morphology, aquaculture)

TOADFISH, GULF (*Opsanus beta*)
J 48(7) : 1212 (acclimation, water temperature, enzymatic activity)

Todarodes pacificus (*see* SQUID, JAPANESE FLYING)

TOMCOD, ATLANTIC (*Microgadus tomcod*)
TF 1810F (habitat improvement, resource conservation, vulnerability, Gulf of St. Lawrence)
DF 842 (landing statistics, estuarine fisheries, Gulf of St. Lawrence)

TOXICITY
J 48(2) : 173 (arsenic compounds, phytoplankton, periphyton, Sormogen L., Sweden)
(3) : 421 (toxicity tests, enzymolysis, *Renibacterium salmoninarum*, rainbow trout)
(5) : 875 (aromatic hydrocarbons, developmental stages, lake trout)
(6) : 960 (biological poisons, geographical distribution, *Nitzschia pungens*, NE Pac.)
: 1055 (chronic toxicity, bioaccumulation, cadmium, fresh water, *Hyallela azteca*)
: 1061 (bioaccumulation, metals, gills, rainbow trout)
(7) : 1136 (domoic acid, batch culture, plankton, *Nitzschia pungens* f. *multiseries*)
: 1193 (selenium compounds, growth, motility, algae)
: 1201 (physiology, ultrastructure, selenium compounds, algae)
(9) : 1629 (biological poisons, algal blooms, vertical distribution, *Oscillatoria agardhii*, L. Ostra Kyrksundet, Finland)
: 1750 (aromatic hydrocarbons, sediments, English sole, Puget Sound, NE Pac.)
(12) : 2316 (biological poisons, fish kill, *Prymnesium parvum*, Atlantic salmon, fjords, Norway)
SP 113 : 153 (paralytic shellfish poison, transport processes, water circulation, *Alexandrium*, Gulf of St. Lawrence)
TF 1774(1) (aquatic environment, environmental monitoring, conferences, World Waters)
(2) (aquatic environment, environmental monitoring, conferences, World Waters)
1796F (phytoplankton, monitoring program, Gulf of St. Lawrence, St. Lawrence R. estuary)
TS 5531 (biological poisons, tetrodotoxins, public health, Bacteria)

TROUT, BROOK (*Salvelinus fontinalis*)
J 48(2) : 238 (acidification, biological stress, hormones)
(5) : 857 (interspecific relationships, distribution, feeding behavior, white sucker, Mastigouche Reserve, Que.)
: 938 (homing behavior, chemoreception, olfaction, Queen's R., RI, Angeline Brook, MA)
(8) : 1437 (genetics, hybrids, Arctic char, N Labrador)
(9) : 1735 (feeding behavior, prey selection, lakes, Laurentian Shield, Que.)
(10) : 1987 (acclimation, acidification, aluminum)
: 1989 (pollution effects, acidification, aluminum, ventilation)
: 2006 (acclimation, aluminum, gills, juveniles)
: 2016 (acclimation, aluminum, histology, gills)
(11) : 2152 (phenotypic variations, zygotes, body size, Mykiss L., Ont.)
: 2212 (anadromous migrations, seasonality, bioenergetics, Saumon R., Que.)
TF 1763 (pollution effects, insecticides, enzyme activity, brain, Nfld.)
1789 : 111 (aquaculture techniques, selective breeding, diploids, triploids, females)

TROUT, BROWN (*Salmo trutta*)
J 48(1) : 19 (growth, age determination, methodology, otoliths, juveniles)
(6) : 1015 (biological age, sexual maturity, body size, rivers, Norway)
(10) : 1838 (longevity, body size, growth, anadromous populations)
(S1) : 118 (introduced species, genetics, aquaculture, Ganaraska R., Ont.)

TROUT, BULL (*Salvelinus confluentus*)
J 48(11) : 2191 (taxonomy, distribution records, sympatric species, Dolly Varden, North America)

TROUT, CUTTHROAT (*Oncorhynchus clarki*)
J 48(2) : 196 (debris flow, ecological crisis,

Quartz Creek, OR)
(5) : 757 (local movements, seasonal variations, spatial variations, Musqueam Creek, B.C.)
(8) : 1364 (habitat selection, habitat preferences, seasonal variations, Musqueam Creek, B.C.)

TROUT, LAKE (*Salvelinus namaycush*)
J 48(3) : 498 (predation, population density, snails)
(5) : 875 (toxicity, aromatic hydrocarbons, developmental stages)
(12) : 2377 (hatcheries, spawning, Stony Island Reef, L. Ontario)
(S1) : 134 (introduced species, stocking organisms, evaluation, L. Opeongo, Ont.)
DF 817 (fishery surveys, catch statistics, catch/effort, Prelude L., Prosperous L., N.W.T.)

TROUT, RAINBOW (*Oncorhynchus mykiss*) (*Salmo gairdneri*)
J 48(2) : 191 (degradation, carcasses, Mink Creek, ID)
(3) : 414 (acidification, aluminum, blood)
: 421 (toxicity tests, enzymolysis, *Renibacterium salmoninarum*)
(4) : 583 (swimming, bioenergetics)
(6) : 1061 (toxicity, bioaccumulation, metals, gills)
(7) : 1188 (septicaemia, genomes, aquaculture)
: 1235 (competition, microhabitat, rosyside dace, Coweeta Creek, NC)
: 1308 (phenotypes, enzymatic activity, Lower Laurentian Great Lakes, North America)
(9) : 1623 (parasitism, tissues, sealworm)
: 1704 (interspecific relationships, competition, feeding behavior, largemouth bass, Peter L., Paul L., MI)
: 1811 (metabolism, carbohydrates, proteins)
(10) : 1829 (physiology, adsorption, sodium, gills)
: 1987 (acclimation, acidification, aluminum)
: 1996 (acclimation, aluminum, gills, juveniles)
: 2028 (pollution effects, acidification, epithelia)
(11) : 2083 (salinity effects, growth, metabolism, juveniles)
(S1) : 118 (introduced species, genetics, aquaculture, Ganaraska R., Ont.)
TF 1789 : 89 (aquaculture techniques, marketing, triploids, Nfld.)
: 101 (aquaculture techniques, sexual maturity, control, Thamesford, Ont.)
TS 5538 (boil disease, vibriosis, redmouth disease, vaccination, Denmark)
5544 (aquaculture, sperm, brood stocks)
5549 (aquaculture, selective breeding, sexual maturity, males)

TROUT, STEELHEAD (*Oncorhynchus mykiss*) (*Salmo gairdneri*)
J 48(2) : 243 (forage fish, predation, natural populations, cultured populations)
(6) : 1104 (stock identification, parasites, *Nanophyetus salmincola*, Central Pac.)
(11) : 2083 (salinity effects, growth, metabolism, juveniles)

TUNA, BIGEYE (*Thunnus obesus*)
J 48(2) : 309 (species identification, DNA, polymers, NW Atl.)

TUNA, BLUEFIN (*Thunnus thynnus*)
J 48(2) : 309 (species identification, DNA, polymers, NW Atl.)
EC 89 (market research, fishery economics, trade, NW Atl.)

TUNA, SKIPJACK (*Katsuwonus pelamis*) (*Euthynnus pelamis*)
J 48(6) : 1081 (schooling behavior, models)

TUNA, SOUTHERN BLUEFIN (*Thunnus maccoyii*)
J 48(8) : 1358 (growth, density dependence, larvae, East Indian Ocean)

TUNA, YELLOWFIN (*Thunnus albacares*)
J 48(2) : 309 (species identification, DNA, polymers, NW Atl.)

TUNAS (*Thunnus* spp.)
TF 1820 (identification keys, body size, conversion tables, NW Atl.)

Tursiops truncatus (*see* DOLPHIN, BOTTLENOSE)

U

Urophycis tenuis (*see* HAKE, WHITE)

USA (United States of America) (*see also* names of states)
J 48(S1) : 162 (introduced species, legislation, environmental protection, governments)
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(8) : 1468 (mercury, bioaccumulation, reservoirs, Churchill R. diversion, Man.)
: 1492 (growth, models, Oneida L., NY, L. Erie)
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Abbreviations/Abréviations

J - Canadian Journal of Fisheries and Aquatic Sciences/Journal canadien des sciences halieutiques et aquatiques

SP - Canadian Special Publication of Fisheries and Aquatic Sciences/Publication spéciale canadienne des sciences halieutiques et aquatiques

B - Canadian Bulletin of Fisheries and Aquatic Sciences/Bulletin canadien des sciences halieutiques et aquatiques

AR - Annual Report/Rapport annuel

TF - Canadian Technical Report of Fisheries and Aquatic Sciences/Rapport technique canadien des sciences halieutiques et aquatiques

MF - Canadian Manuscript Report of Fisheries and Aquatic Sciences/Rapport manuscrit canadien des sciences halieutiques et aquatiques

DF - Canadian Data Report of Fisheries and Aquatic Sciences/Rapport statistique canadien des sciences halieutiques et aquatiques

IF - Canadian Industry Report of Fisheries and Aquatic Sciences/Rapport canadien à l'industrie sur les sciences halieutiques et aquatiques

TH - Canadian Technical Report of Hydrography and Ocean Sciences/Rapport technique canadien sur l'hydrographie et les sciences océaniques

DH - Canadian Data Report of Hydrography and Ocean Sciences/Rapport statistique canadien sur l'hydrographie et les sciences océaniques

CH - Canadian Contractor Report of Hydrography and Ocean Sciences/Rapport canadien des entrepreneurs sur l'hydrographie et les sciences océaniques

TS - Canadian Translation of Fisheries and Aquatic Sciences/Traduction canadienne des sciences halieutiques et aquatiques

EC - Economic and Commercial Analysis Report/Rapport de l'analyse économique et commerciale

R - Reprinted/réimprimé

Rev. - Revised/révisé

F - French/français

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- (11) : 2095

Goruk, R. D. - DF 843

Gough, J. - MF 2105

Gould, A. P. - MF 2024
- 2107
- 2112
- DF 841

Graham, J. J. - J 48(3) : 448

Grant, J. - J 48(7) : 1285

Gratton, Y. - SP 113 : 149

Gray, I. M. - J 48(1) : 132

Green, J. M. - J 48(4) : 577

Greenberg, D. A. - TH 131

Greenberg, J. A. - J 48(9) : 1613

Greene, C. R. - B 224 : 97

Greer Walker, M. - J 48(12) : 2333

Grégoire, F. - TF 1795F
- IF 210
- 210F

Gregory, D. N. - DH 93

Gregory, S. V. - J 48(2) : 196

Griffiths, R. W. - J 48(8) : 1381

Groot, C. - DF 813
- 837

Gros, P. - J 48(11) : 2129

Grossfield, J. - J 48(9) : 1724

Grossman, G. D. - J 48(7) : 1235

Groves, T. D. D. - J 48(9) : 1606

Gudding, R. - TS 5539

Guildford, S. J. - DF 839

Gyselman, E. C. - DF 815

H

Haas, G. R. - J 48(11) : 2191

Hachmöller, B. - J 48(11) : 2184

Haegele, C. W. - MF 2117
- DF 821

Haffner, G. D. - J 48(2) : 261

Hagan, D. A. - J 48(8) : 1581

Hall, K. - TF 1774(1)
- (2)

Hallard, K. - DF 839

Hallard, K. A. - J 48(11) : 2258

Hallerman, E. M. - J 48(S1) : 99

Halliday, R. G. - J 48(5) : 832

Hamblin, P. F. - J 48(8) : 1517

Hamer, L. - DF 819

Hamilton, A. L. - J 48(7) : 1132

Hammar, J. - J 48(8) : 1437

Hammill, M. O. - J 48(12) : 2471

Hanada, Y. - TS 5541

Hand, C. M. - MF 2069

Handy, R. D. - J 48(10) : 1829

Hanna, M. - J 48(10) : 1979

Hansen, L. P. - J 48(6) : 1041

Hansen, P.-D. - TF 1800

Hansen, T. - J 48(11) : 2100

Harbo, R. M. - MF 2070

Harding, G. C. - SP 113 : 179

Harding, L. - TF 1774(1)
- (2)

Hare, L. - J 48(1) : 39
- (8) : 1481

Harling, W. R. - DF 807
- 808
- 820

Harshbarger, J. C. - J 48(9) : 1804

Hartig, J. H. - J 48(8) : 1574

Hartley, S. E. - J 48(9) : 1655

Harvey, B. C. - J 48(8) : 1476

Harvey, H. H. - J 48(8) : 1446

Haux, C. - J 48(11) : 2100

Havens, K. E. - J 48(10) : 1846

Hay, D. E. - MF 2019(1)
- (6)
- 2108
- 2117

Hayward, R. S. - J 48(6) : 1100

Healey, M. C. - J 48(4) : 661
- TF 1759

Hebert, C. E. - J 48(2) : 261

Hebert, P. D. N. - J 48(8) : 1408
- (S1) : 3
- : 5
- : 80

Hébert, S. - TF 1773F

Hecky, R. E. - J 48(S1) : 8
- DF 839

Hector, D. G. - J 48(8) : 1408

Hedrick, R. P. - J 48(1) : 99

Heggberget, T. G. - J 48(10) : 1838

Heggenes, J. - J 48(5) : 757
- (8) : 1364

Heizer, S. R. - MF 2067

Helser, T. E. - J 48(3) : 487

Heltcher, K. J. - J 48(4) : 599

Henderson, B. A. - J 48(12) : 2420

Henderson, E. B. - TF 1789 : 97

Henderson, M. A. - J 48(6) : 988
- (12) : 2403
- TF 1767

Hendricks, S. P. - J 48(9) : 1645

Héral, M. - J 48(3) : 391

Herman, A. W. - J 48(3) : 340

Hershey, A. E. - J 48(3) : 498

Hesslein, R. H. - J 48(11) : 2258
- DF 839

Heuring, L. G. - TF 1775

Heyman, U. - J 48(2) : 173

Hicks, R. E. - J 48(5) : 923

Hightower, J. E. - J 48(10) : 1887

Hilborn, R. - J 48(6) : 1081

Himmelman, J. H. - SP 113 : 319

Himmer, S. - DF 839

Hinckley, S. - J 48(1) : 91

Hindar, K. - J 48(5) : 945

Hines, A. H. - J 48(2) : 267

Hirayama, N. - TS 5526

Hirst, S. M. - MF 2093(1)

Hisatsune, K. - TS 5522

Hitchcock, E. - J 48(2) : 191

Hitchin, G. - J 48(8) : 1568

Hodgson, C. J. - J 48(9) : 1704

Hodgson, J. R. - J 48(9) : 1704

Hoenig, J. M. - J 48(11) : 2266

Holčík, J. - J 48(S1) : 13

Hollett, J. - TF 1782

Holmes, J. - J 48(12) : 2324

Hontela, A. - J 48(2) : 238

Hoogenboezem, W. - J 48(1) : 7

Hooper, R. G. - J 48(11) : 2266

Hop Wo, L. - MF 2024
- 2107
- 2112
- DF 841

Hopky, G. E. - DF 847

Hørlyck, V. - J 48(7) : 1188

Houlihan, R. J. - J 48(10) : 1853

Hsieh, W. W. - J 48(4) : 623

Hubert, W. A. - J 48(10) : 1882

Hudd, R. - J 48(7) : 1181

Hudon, C. - J 48(11) : 2212
- SP 113 : 161

Huggett, W. S. - TH 125

Hunt, G. - J 48(2) : 290

Hurlbut, T. - TF 1820

Hurley, J. P. - J 48(3) : 472

Hyatt, K. D. - TF 1758

Hynes, J. D. - J 48(S1) : 118

I

Ibarra, M. - J 48(5) : 909

Iguchi, T. - TS 5522

Ihssen, P. E. - J 48(7) : 1308
- (S1) : 118

Irons, J. G. III - J 48(3) : 442

Irvine, J. R. - TF 1780

Ishikawa, S. - TS 5541

Iwama, G. K. - J 48(9) : 1761
- (11) : 2083

J

Jackson, T. A. - J 48(12) : 2449

Jacquaz, B. - MF 2089F

Jacques, F. J. - J 48(9) : 1750

Jakubowski, M. J. - DF 788
- 792

Jamieson, G. S. - SP 112

Jenkins, G. P. - J 48(8) : 1358

Jensen, A. J. - J 48(10) : 1838

Jessop, B. M. - DF 829

Jin, E. H. - J 48(1) : 105

Johannsson, O. E. - J 48(8) : 1546

Johnsen, B. O. - J 48(10) : 1838

Johnsen, T. M. - J 48(12) : 2316

Johnson, M. G. - J 48(12) : 2509
- : 2523

Johnson, S. L. - J 48(2) : 248

Johnson, T. B. - J 48(4) : 672

Johnsson, J. I. - J 48(2) : 243

Johnston, C. E. - J 48(12) : 2443

Johnston, T. A. - J 48(8) : 1468

Johnstone, R. - TF 1789 : 15

Jones, A. - TF 1817

Jones, M. L. - J 48(4) : 599

Jones, P. D. - J 48(9) : 1685

Jones, R. A. - DF 838

Jonsson, B. - J 48(6) : 1041
- (10) : 1838
- (12) : 2307

Jørgensen, P. E. V. - J 48(7) : 1188

Jungalwalla, P. J. - TF 1789 : 47

K

Kaartvedt, S. - J 48(12) : 2316

Kaastrup, P. - J 48(7) : 1188

Kadlec, J. A. - J 48(12) : 2355

Kalff, J. - J 48(7) : 1244

Kalnin, L. W. - MF 2068
- 2079
- 2111
- 2114

Kapuscinski, A. R. - J 48(S1) : 99

Karås, P. - J 48(1) : 28
- (7) : 1181

Kasian, S. E. M. - J 48(6) : 1022

Kaster, J. L. - J 48(2) : 284

Kaya, C. M. - J 48(1) : 53

Keast, A. - J 48(9) : 1792

Keefe, M. - J 48(5) : 938

Keller, A. A. - J 48(11) : 2276

Keller, W. - J 48(9) : 1635

Kelso, J. R. M. - J 48(12) : 2509
- : 2523

Keniry, M. J. - J 48(4) : 569

Kennedy, C. J. - J 48(7) : 1212

Kenney, B. C. - J 48(1) : 152

Kenny, A. - EC 97

Kiceniuk, J. W. - TF 1763

Kido, K. - TS 5541

Kieser, R. - J 48(7) : 1264
- MF 2091
- 2108

Kirschtel, D. B. - J 48(10) : 1951

Kitchell, J. F. - J 48(8) : 1574

Kjellberg, G. - J 48(12) : 2307

Kjesbu, O. S. - J 48(12) : 2333

Kling, H. - DF 839

Klotz, R. L. - J 48(1) : 84
- (8) : 1460

Klump, J. V. - J 48(2) : 284

Klungsøyr, J. - J 48(12) : 2333

Klut, M. E. - J 48(6) : 1092

Knapp, W. - TF 1774(1)
- (2)

Knowles, R. - J 48(6) : 1048

Knox, D. E. - J 48(2) : 164

Knuth, B. A. - J 48(8) : 1595

Ko, D. - J 48(2) : 238

Kohlmann, K. - TS 5549

Kolasa, J. - J 48(8) : 1408

Kondo, S. - TS 5522

Koutitonsky, V. G. - SP 113 : 57
- : 149

Kovalak, W. P. - J 48(8) : 1381

Kristofferson, A. H. - MF 2120

Krone, C. A. - J 48(9) : 1750

Kronlund, R. - MF 2019(1)
- (6)

Krueger, C. C. - J 48(12) : 2377
- (S1) : 66

Kryvi, H. - J 48(12) : 2333

Kudo, K. - TS 5525

Kulka, D. W. - TF 1787

Kuris, A. M. - J 48(4) : 559

Kuwahara, A. - TS 5537

L

L'Abée-Lund, J. H. - J 48(6) : 1015
- (10) : 1838

Labelle, M. TF 1722

Lafontaine, N. - J 48(3) : 356

Lalonde, S. - J 48(11) : 2285

Lambert, J. D. - J 48(11) : 2040

Lamberti, G. A. - J 48(2) : 196

Lammens, E. H. R. R. - J 48(1) : 7

Lane, J. - DF 824

Langille, P. - DH 93

Langlet, B. - TF 1792F

Lanteigne, M. - TF 1804

Lapi, L. - TF 1816

Larocque, R. - TF 1796F

Larsen, J. L. - TS 5538

Larsen, S. - TS 5530

Lassiter, R. R. - J 48(2) : 318

Lavergne, Y. - TF 1792F
- 1808F

Lavoie, A. - SP 113 : 161

Lawrence, M. J. - DF 847

Laws, R. M. - J 48(4) : 631

Leach, J. H. - J 48(8) : 1381
- (11) : 2051
- (S1) : 156

Leaman, B. M. - TF 1778
- MF 2091

Lean, D. R. S. - J 48(7) : 1293
- (10) : 1960

Lebeuf, M. - DH 101F

LeBlanc, C. H. - SP 113 : 293
- DF 842

Lederis, K. - J 48(2) : 238

Lee, D. L. - TF 1777

Lee, W. G. - J 48(4) : 623

Lefebvre, L. - J 48(7) : 1167

Legendre, P. - SP 113 : 161

Leggett, W. C. - J 48(5) : 843
- (11) : 2228

Lehtonen, H. - J 48(7) : 1181

Lemon, D. D. - CH 39

Lévesque, P. - MF 2122

Levings, C. D. - J 48(7) : 1250

Levy, D. A. - J 48(1) : 67

Lewis, C. A. - J 48(S1) : 156

Lie, U. - J 48(12) : 2316

Lillehaug, A. - TS 5539

Lillie, W. R. - B 224 : 7

Lin, C. K. - J 48(2) : 183

Lindholm, T. - J 48(9) : 1629

Lint, D. W. - B 224 : 7

Lints, D. - J 48(1) : 146

Liskauskas, A. P. - J 48(11) : 2152

Liu, C. L. - TS 5521

Lively, R. R. - DH 91

Loder, J. W. - J 48(7) : 1316
- DH 94

Lodge, D. M. - J 48(10) : 1853

Lorenzen, N. - J 48(7) : 1188

Love, J. - J 48(1) : 105

Lowry, L. F. - B 224 : 39

Lubin, R. T. - J 48(7) : 1302

Luedke, W. H. - MF 2107
- DF 841

Lukyn, B. V. - DF 523
- 524

Lundqvist, H. - J 48(6) : 1041

Luoma, S. N. - J 48(2) : 222

Lura, H. - J 48(3) : 429

Lydersen, C. - J 48(11) : 2180
- (12) : 2471

Lynch, A. - J 48(12) : 2324

Lypka, R. - DF 818

M

Mac, M. J. - J 48(9) : 1804

Macdonald, A. L. - DF 836

MacDonald, B. A. - J 48(2) : 215

Macdonald, C. R. - J 48(3) : 371

Macdonald, D. M. - DH 60(6)

Macdonald, R. W. - DH 60(6)
- 80
- 97
- 101F

MacIsaac, E. A. - DH 76

MacIsaac, H. J. - J 48(11) : 2051

Mackas, D. L. - DH 76

MacLean, M. - TF 1786

MacLennan, D. S. - J 48(8) : 1408

Madenjian, C. P. - J 48(8) : 1492

Magnan, P. - J 48(5) : 857
- (9) : 1735

Mahoney, D. L. - J 48(5) : 768

Malick, J. G. - MF 1824

Malins, D. C. - J 48(9) : 1750

Maly, E. J. - J 48(3) : 364
- (6) : 1077

Margolis, L. - J 48(12) : 2403
- TF 1750

Margraf, F. J. - J 48(4) : 607

Marmorek, D. R. - J 48(4) : 599

Marsan, R. C. - SP 113 : 313

Marsden, J. E. - J 48(12) : 2377

Marshall, H. D. - J 48(1) : 48

Marshall, K. E. - TF 1775

Martens, D. W. - J 48(3) : 493

Martin-Robichaud, D. J. - J 48(11) : 2223

Martini, I. P. - J 48(8) : 1503

Mason, D. M. - J 48(5) : 894

Masuda, K. V. - DF 806

Mathew, D. - DF 839

Mathias, J. A. - J 48(8) : 1468

Matricia, T. - J 48(S1) : 148

Matsakis, S. - J 48(8) : 1419

Matsuya, M. - TS 5525

Matthews, G. B. - J 48(11) : 2184

Matthews, R. A. - J 48(11) : 2184

Mattice, J. S. - J 48(10) : 1987

Matulich, S. C. - J 48(9) : 1613

May, B. - J 48(S1) : 66

Mayzaud, P. - SP 113 : 209
- : 219

McAllister, C. D. - DH 83(1)
- (2)

McAllister, D. E. - J 48(11) : 2140

McCain, B. B. - J 48(9) : 1750

McCann, J. A. - J 48(S1) : 162

McCarter, P. B. - MF 2019(1)
- (6)
- 2108
- 2117

McDonald, D. G. - J 48(6) : 1061
- (10) : 1996
- : 2006
- : 2016

McDonald, M. E. - J 48(3) : 498

McFarlane, G. A. - J 48(11) : 2118
- MF 2012

McGaw, R. - EC 90

McGee, G. G. - J 48(2) : 233

McGeer, J. C. - J 48(9) : 1761

McGlade, J. M. - J 48(4) : 640

McGowan, D. K. - MF 2120

McKinnell, S. - J 48(12) : 2403

McKinnell, S. M. - SP 112

McLaughlin, F. A. - DH 97
- 80
- 101F

McLay, H. A. - TF 1789 : 15

McLean, W. E. - DF 523
- 524

McLeay, D. - TF 1774(1)
- (2)

McNeil, B. K. - J 48(9) : 1606

McPhail, J. D. - J 48(11) : 2191

McQueen, D. J. - J 48(3) : 356
- (10) : 1960

McRuer, J. K. - J 48(11) : 2228

Meffe, G. K. - J 48(1) : 60

Melling, H. - CH 35

Ménard, Y. - TF 1808F

Menz, F. C. - J 48(8) : 1595

Meriluoto, J. A. O. - J 48(9) : 1629

Merrick, G. W. - J 48(3) : 498

Mertz, G. - SP 113 : 149

Metcalfe, C. D. - J 48(3) : 371

Middleton, J. F. - TH 131

Milette, L. - TF 1769

Milin, A. B. - TS 5548

Millar, R. B. - J 48(11) : 2173
- TF 1753
- 1783

Miller, D. C. - MF 2117

Miller, G. W. - B 224 : 97

Milley, J. E. - J 48(7) : 1136

Mills, E. L. - J 48(8) : 1546
- (11) : 2250

Ministère des Pêches et des Océans - EC 103F

Minkley, B. G. - DH 80

Minns, C. K. - J 48(4) : 599

Minshall, G. W. - J 48(2) : 191

Mittelhammer, R. C. - J 48(9) : 1613

Mladenov, P. V. - SP 113 : 261

Moen, V. - J 48(3) : 426

Molot, L. A. - J 48(1) : 140

Montevecchi, W. A. - SP 113 : 277

Moon, T. W. - J 48(9) : 1811

Moore, J. N. - J 48(2) : 222

Moore, K. M. S. - J 48(2) : 196

Morán, P. - J 48(2) : 170

Morgan, J. D. - J 48(11) : 2083

Morgia, P. - TS 5545

Morin, R. - J 48(11) : 2212

Morris, J. F. T. - TF 1759

Morton, K. F. - TF 1756

Mosegaard, H. - J 48(1) : 19

Moser, M. L. - J 48(9) : 1670

Mount, D. R. - J 48(10) : 2006

Mount Allison University - EC 92(1)
- (2)

Mountain, D. G. - J 48(6) : 1003

Moyle, P. B. - J 48(5) : 849

Mueller, C. W. - DF 825

Mueller, M. E. - J 48(10) : 2006
- : 2016

Muir, D. C. G. - B 224 : 165

Mulholland, P. J. - J 48(10) : 1951

Mulligan, T. J. - J 48(7) : 1264

Mullins, C. C. - DF 838

Munawar, M. - J 48(1) : 105

Muncaster, B. W. - J 48(1) : 132

Mundie, J. H. - J 48(11) : 2061

Munkittrick, K. R. - J 48(8) : 1371

Murkin, E. J. - J 48(12) : 2355

Murkin, H. R. - J 48(12) : 2355

Murray, C. B. - J 48(9) : 1783
- TF 1767

Murthy, C. R. - J 48(8) : 1517

Myers, M. S. - J 48(9) : 1750

Myers, R. A. - J 48(10) : 1820

Mysak, L. A. - J 48(4) : 623

N

Næsje, T. F. - J 48(10) : 1838
- (12) : 2307

Nagtegaal, D. A. - MF 2062

Naito, B. G. - MF 2100

Nalepa, T. F. - J 48(8) : 1558

Narayanan, S. - DH 90

Nassichuk, M. - TF 1774(1)
- (2)

Nassichuk, M. D. - TF 1692

Neill, W. E. - J 48(5) : 776

Neilson, J. - J 48(3) : 340

Nernberg, D. - DF 839

Neuman, E. - J 48(1) : 28
- (7) : 1181

Newbould, K. A. - DF 852

Nickelson, T. E. - J 48(2) : 248

Nidle, B. H. - DF 806

Noakes, D. J. - J 48(4) : 526
- (11) : 2073

Nolan, K. - J 48(9) : 1724

Norris, J. G. - J 48(12) : 2533

Northcote, T. G. - J 48(5) : 757
- (8) : 1364

Norwood, W. P. - J 48(6) : 1055

O

O'Boyle, R. - J 48(6) : 1003

O'Brien, M. C. - DH 80
- 97

Oehlert, G. - J 48(4) : 631

Ogawa, Y. - TS 5523

O'Gorman, R. - J 48(8) : 1546
- (11) : 2250

Ogutu-Ohwayo, R. - J 48(S1) : 8

Olasson, P. - TS 5529

Olesen, N. J. - J 48(7) : 1188

Oliveira, L. - J 48(7) : 1193
- : 1201

Olori, L. - TS 5545

Olsen, T. M. - J 48(10) : 1853

Olson, A. F. - J 48(9) : 1670

Olson, J. R. - J 48(5) : 875

O'Neill, S. F. - DF 852

Øritsland, T. - J 48(11) : 2180

Orr, J. R. - B 224 : 23

Osse, J. W. M. - J 48(1) : 7

Ostrofsky, M. L. - J 48(2) : 233

Oswood, M. W. - J 48(3) : 442

Ouellet, Y. - TF 1766F

Oviatt, C. A. - J 48(11) : 2276

Owen, C. J. - J 48(5) : 923

P

Pace, M. L. - J 48(1) : 146

Pahl-Wostl, C. - J 48(6) : 968

Paine, M. D. - J 48(11) : 2228

Painter, D. S. - J 48(8) : 1539

Papadakis, J. E. - DH 60(6)

Paquette, G. - DH 101F

Parrish, D. L. - J 48(4) : 607

Parsons, K. A. - J 48(5) : 811

Pascual, M. A. - J 48(5) : 799

Paton, D. - DH 97
- 101F

Paton, D. W. - TH 133

Patrick, E. V. - J 48(5) : 894

Patrick, P. H. - J 48(2) : 290

Paul, A. J. - J 48(4) : 559
- (11) : 2266

Paul, J. M. - J 48(11) : 2266

Payne, J. F. - TF 1763

Pearson, R. - DH 97

Peckarsky, B. L. - J 48(6) : 1069

Pelletier, D. - J 48(11) : 2129

Pelletier, M. - MF 2089F

Pendás, A. M. - J 48(2) : 170

Peoples, R. A. Jr. - J 48(S1) : 162

Pepin, P. - J 48(3) : 503
- (10) : 1820

Pepper, V. A. - TF 1789
- 1789 : 1
- IF 208

Percy, J. A. - TF 1770
- DF 840

Perrie, W. - TH 134

Perrin, C. J. - J 48(11) : 2061

Perry, E. A. - TF 1816

Perry, S. F. - J 48(9) : 1811

Peter, A. - J 48(5) : 757
- (8) : 1364

Peters, D. - J 48(2) : 222

Peters, R. H. - J 48(10) : 1967
- : 1979

Petersen, M. R. - J 48(5) : 824

Peterson, I. K. - TH 129

Peterson, R. E. - J 48(5) : 875

Peterson, R. H. - J 48(11) : 2223

Petrie, B. - DH 91

Petticrew, E. L. - J 48(7) : 1244

Pettipas, R. G. - DH 94

Philipp, D. P. - J 48(S1) : 58

Pickard, P. R. - TF 1790

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These reports provide a medium for filing and archiving data compilations where little or no analysis is included. Such compilations commonly will have been prepared in support of other journal publications or reports. The subject matter of these reports reflects the broad interests and policies of the Department of Fisheries and Oceans, namely, fisheries management, technology and development, and aquatic environments relevant to Canada.

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The number in parentheses at the end of each reference indicates the name of the establishment from which the report originated (see pages 2560 and 2561 for addresses). Copies of reports can be obtained from Micromedia Limited, 165 Hôtel de Ville, Hull (Québec) J8X 3X2.

Ces rapports servent de base à la compilation des données de classement et d'archives pour lesquelles il y a peu ou pas d'analyse. Cette compilation aura d'ordinaire été préparée pour appuyer d'autres publications ou rapports. Le sujet de ces rapports reflète la vaste gamme des intérêts et politiques du ministère des Pêches et des Océans, notamment dans les domaines de la gestion des pêches, de la technologie, du développement et des milieux aquatiques s'appliquant au Canada.

Les rapports statistiques ne sont pas préparés en vue d'une vaste distribution et leur contenu ne

doit pas être mentionné dans une publication sans l'autorisation écrite préalable de l'établissement qui en est l'auteur. Les rapports sont résumés dans *Résumés des sciences aquatiques et halieutiques* (ASFA) et figurent dans l'index annuel des publications scientifiques et techniques du ministère.

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523. Lukyn, B. V., D. Ewart, G. J. Blackmun, and W. E. McLean. 1985. Quinsam watershed study: first addendum (Jan. - Aug., 1984). 34 p. (11)

524. Lukyn, B. V., W. E. McLean, G. J. Blackmun, and D. Ewart. 1985. Quinsam watershed study: second addendum (Sept. - Dec., 1984). 47 p. (11)

788. Jakubowski, M. J. 1990. Review of the Babine River counting fence biological program for 1989. 69 p. (17)

792. Jakubowski, M. J. 1990. Review of the Babine River counting fence biological program for 1987 and 1988. 96 p. (17)

806. Nidle, B. H., K. S. Shortreed, K. V. Masuda, T. R. Whitehouse, and R. C. Carrier. 1990. Results of limnological investigations carried out in 1986 on 5 coastal and interior lakes in British Columbia. 213 p. (2)

807. Boutillier, J. A., W. R. Harling, and D. E. Young. 1990. F.V. *Sharlene K* shrimp survey 89-S-1, west coast of Vancouver Island, May 10-16, 1989. 38 p. (1)

808. Boutillier, J. A., W. R. Harling, and D. E. Young. 1990. *W.E. Ricker* shrimp survey 88-S-1, west coast of Vancouver Island, April 28 - May 8, 1988. 40 p. (1)

810. Winther, I. 1990. 1990 Rivers Inlet echo sounding program: summary report. 15 p. (17)

812. Finnegan, B. O., R. L. Dunbrack, and K. Simpson. 1990. Summary of 1987 coho salmon smolt trapping operations on the Lachmach River, British Columbia. 27 p. (1)

813. Cooke, K., and C. Groot. 1990. Data record of juvenile sockeye salmon and other fish species captured by purse seine in Alberni Inlet and Barkley Sound in April, May, and June, 1987 and 1988. 179 p. (1)

814. Caissie, D. 1991. The importance of groundwater to fish habitat: base flow characteristics for three Gulf Region rivers. 25 p. (16)

815. Gyselman, E. C., and K. E. Broughton. 1991. Data on the anadromous Arctic charr (*Salvelinus alpinus*) of Nauyuk Lake, Northwest Territories, 1974-1988. 125 p. (3)

816. Cruikshank, D. R. 1991. Whole lake additions in the Experimental Lakes Area, 1986-1989. 18 p. (3)

817. Roberge, M. M., J. B. Dunn, and M. R. Falk. 1990. Catch, effort and biological data of fish, in particular lake trout (*Salvelinus namaycush*), from Prelude and Prosperous lakes, Northwest Territories, 1973 and 1979. 52 p. (3)

818. Wagemann, R., G. Regehr, and R. Lypka. 1990. Compiler listing for chemical speciation program MACS80.VERS.4.1 for Microsoft Fortran Version 5 for MS-DOS. 190 p. (3)

819. Hamer, L., and J. Schweigert. 1990. Summary of British Columbia herring sampling data for the 1989-90 season. 111 p. (1)

820. Harling, W. R., and J. A. Boutillier. 1991. *W.E. Ricker* shrimp biomass survey 90-S-1, west coast of Vancouver Island, April 24-May 2, 1990. 43 p. (1)

821. Haegele, C. W. 1991. Spawn estimates and associated predator data for herring egg loss in Lambert Channel, Georgia Strait -- 1989 and 1990. 103 p. (1)

823. Southgate, D. R. 1991. Review of the Meziadin and Upper Nass Biological Program, 1990. 74 p. (17)

824. Lane, J., and B. Finnegan. 1991. Summary of fall 1988 adult and juvenile coho salmon sampling operations on the Lachmach River, British Columbia. 61 p. (1)

825. Mueller, C. W., and H. J. Enzenhofer. 1991. Trawl catch statistics in sockeye rearing lakes of the Fraser River drainage basin: 1975 - 1985. 204 p. (11)

827. Whitehouse, T. R. 1991. Data on insects emerging from natural and developed fish habitats at the Campbell and Fraser River estuaries, 1989. 85 p. (2)

828. Read, C. J., and M. M. Roberge. 1991.

Biological data on Arctic charr from the Salmon River, Baffin Island, Northwest Territories, 1979-1989. 19 p. (3)

829. Jessop, B. M., and W. E. Anderson. 1991. Life-history data on alewife and blueback herring, Mactaquac Dam, 1982-88. 42 p. (7)

830. Finnegan, B., and D. Davies. 1991. Summary of fall 1989 adult and juvenile coho salmon sampling operations on the Lachmach River, British Columbia. 55 p. (1)

832. Davies, D. L. W. 1991. Summary of the 1990 coho salmon smolt trapping operations on the Lachmach River, British Columbia. 53 p. (1)

835. Southgate, D. R. 1991. A review of the Nass River test fishery biological program for 1990. 72 p. (17)

836. Macdonald, A. L. 1991. The Indian food fishery of the Fraser River: 1990 summary. 105 p. (11)

837. Cooke, K. D., B. J. Waddell, and C. Groot. 1991. Data record of juvenile salmonids and other fish species captured by surface trawl off coastal British Columbia in August, 1988 and September, 1990. 79 p. (1)

838. Claytor, R. R., C. C. Mullins, and R. A. Jones. 1991. Commercial Atlantic salmon catch for west Newfoundland and south Labrador, Gulf Region: annual summaries 1974-1988 and weekly catches 1987-1988. 80 p. (16)

839. Ramlal, P. S., C. Anema, E. Cummings, E. J. Fee, S. J. Guildford, K. Hallard, R. E. Hecky, R. H. Hesslein, S. Himmer, H. Kling, D. Mathew, D. Nernberg, and E. Schindler. 1991. Macrophyte and algal studies of some lakes in the Mackenzie Delta and on the Tuktoyaktuk Peninsula, 1985-86. 87 p. (3)

840. Atkinson, E. G., and J. A. Percy. 1991. Stomach content analysis of marine benthic fish from Arctic Canada. 34 p. (12)

841. Hop Wo, L., A. P. Gould, and W. H. Luedke. 1991. Biochemical genetic stock identification of chum salmon in southern British Columbia 1990. 16 p. (1)

842. LeBlanc, C. H., and/et G. J. Chaput. 1991. Landings of estuarine fishes in the Gulf of St. Lawrence 1917 - 1988/ Débarquements de poissons estuariens dans le golfe du Saint-Laurent 1917 - 1988. 101 p. (16)

843. Winther, I., S. K. Bachen, B. P. Spilsted, and R. D. Goruk. 1991. Docee River counting fence, 1990 operations. 14 p. (17)

845. Fissel, D. B., and F. C. Welsman. 1991. Salinity, temperature and density data for Yukon coastal waters; August-September 1988. 159 p. (3)

847. Chiperzak, D. B., G. E. Hopky, and M. J. Lawrence. 1991. Fish catch data from the landfast ice of the Mackenzie River estuary, March 1985, and May 1986, 1987. 28 p. (3)

848. Carder, G. W. 1991. Data from the commercial fishery for Arctic charr, *Salvelinus alpinus* (L.), in the Cambridge Bay, District of Keewatin and Igloolik areas, Northwest Territories, 1989-1990. 40 p. (3)

849. Bond, W. A., and R. N. Erickson. 1991. Fishery data from the Anderson River estuary, Northwest Territories, 1989. 59 p. (3)

851. Carder, G. W. 1991. Creel census and biological data taken from the sport fishery for Arctic charr, *Salvelinus alpinus* (L.), at Freshwater Creek, Northwest Territories, 1981-1983. 13 p. (3)

852. O'Neill, S. F., D. A. Stewart, K. Newbould, and R. Pickard. 1991. 1988 Atlantic salmon sport catch statistics, Maritime Provinces. 79 p. (7)

854F. Gobeil, C. 1991. Inventaire de la contamination des sédiments du chenal Laurentien : Données sur les métaux et les éléments nutritifs. 63 p. (12)

CANADIAN INDUSTRY REPORT OF FISHERIES AND AQUATIC SCIENCES/ RAPPORT CANADIEN A L'INDUSTRIE SUR LES SCIENCES HALIEUTIQUES ET AQUATIQUES

Abbreviation/Abréviation: IF

These reports contain the results of research and development that are useful to industry. The reports are directed primarily toward individuals in the primary and secondary sectors of the fishing and marine industries. No restriction is placed on subject matter and the series reflects the broad interests and policies of the Department of Fisheries and Oceans, namely, fisheries management, technology and development, and aquatic environments relevant to Canada.

The reports are abstracted in *Aquatic sciences and fisheries abstracts* and are indexed annually in the Department's index to scientific and technical publications.

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Ces rapports contiennent les résultats des recherches et des progrès qui sont utiles à l'industrie. Ils sont préparés principalement à l'intention des membres des secteurs primaire et secondaires des industries des pêches et de la mer. Il n'y a aucune restriction quant aux sujets abordés et la collection reflète la vaste gamme des intérêts et des politiques du ministère des Pêches et des Océans, notamment dans les domaines de la gestion des pêches, de la technologie, du développement et des milieux aquatiques s'appliquant au Canada.

Les rapports sont résumés dans *Résumés des sciences aquatiques et halieutiques* (ASFA) et figurent dans l'index annuel des publications scientifiques et techniques du ministère.

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205. Armstrong, R. W. 1991. The 1990 roe herring charter vessel monitoring and sampling program. 134 p. (1)

206. Chadwick, E. M. P. (ed.). 1990. Proceedings of Gulf Habitat Science Workshop. 65 p./Compte rendu de l'atelier sur les sciences de l'habitat du Golfe. 71 p. (16)

207. Chalmers, D. D. 1991. Review of the 1989-1990 British Columbia herring fishery and spawn abundance. 129 p. (1)

208. Pepper, V. A. (ed.). 1991. Report of the government-industry meeting to discuss a Newfoundland program on non-maturing salmonids for local aquaculture performance evaluation. 26 p. (8)

210. Grégoire, F., and K. Fitzgerald. 1991. Analysis of Atlantic mackerel (*Scomber scombrus* L.) catch data gathered by a fisherman in Dingwall, Nova Scotia, from 1983 to 1990. 19 p. (12)

210F. Grégoire, F. et K. Fitzgerald. 1991. Analyse des données de captures de maquereaux bleus (*Scomber scombrus* L.) par un pêcheur de Dingwall, Nouvelle-Écosse, pour la periode de 1983 à 1990. 19 p. (12)

CANADIAN TECHNICAL REPORT OF HYDROGRAPHY AND OCEAN SCIENCES/ RAPPORT TECHNIQUE CANADIEN SUR L'HYDROGRAPHIE ET LES SCIENCES OCÉANIQUES

Abbreviation/Abréviation: TH

These reports contain scientific and technical information that is of sufficient importance to be preserved but that is not appropriate for primary scientific publication. No restriction is placed on subject matter and the series reflects hydrography and chemical and physical oceanography programs of the Department of Fisheries and Oceans.

The reports are abstracted in *Aquatic sciences and fisheries abstracts* and are indexed annually in

the Department's index to scientific and technical publications.

The number in parentheses at the end of each reference indicates the name of the establishment from which the report originated (see pages 2560 and 2561 for addresses). Copies of reports can be obtained from Micromedia Limited, 165 Hôtel de Ville, Hull (Québec) J8X 3X2.

Ces rapports contiennent des données scientifiques et techniques suffisamment importantes pour être consignées mais qui ne se prêtent pas à la publication dans un journal scientifique. Il n'y a aucune restriction quant aux sujets abordés et la collection reflète les programmes d'hydrographie ainsi que d'océanographie chimique et physique du ministère des Pêches et des Océans.

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125. Woodward, M. J., W. S. Huggett, and R. E. Thomson. 1990. Near-surface moored current meter intercomparisons. 65 p. (13)

129. Peterson, I. K. 1990. Sea ice velocity fields off Labrador and eastern Newfoundland derived from satellite imagery: 1984-1987. 85 p. (6)

130. Ages, A. B., and A. L. Woolard. 1991. Flow dynamics of the Campbell River estuary. 97 p. (13)

131. Wright, D. G., D. A. Greenberg, and J. F. Middleton. 1991. Statistical estimates and dynamical interpretations of bottom pressure variations over the Labrador/ Newfoundland Shelf. 60 p. (6)

133. Thompson, J. A. J., and D. W. Paton. 1991. Determination of trace metals in estuarine pore waters containing high concentrations of iron. 13 p. (13)

134. Perrie, W., and M. Rahman. 1991. Coupling of gravity waves to surface currents and ice motion. 69 p. (6)

CANADIAN DATA REPORT OF HYDROGRAPHY AND OCEAN SCIENCES/
RAPPORT STATISTIQUE CANADIEN SUR L'HYDROGRAPHIE ET LES SCIENCES OCÉANIQUES

Abbreviation/Abréviation: DH

This series provides a medium for documentation, archiving, and dissemination of data compilations where little or no analysis is included. Such compilations will commonly have been prepared in support of other publications or of work related to hydrography and to chemical and physical oceanography programs of the Department of Fisheries and Oceans.

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Cette collection permet de recueillir, de classer et de diffuser des ensembles de données pour lesquelles il y a peu ou pas d'analyse. Ces données auront généralement été compilées pour appuyer d'autres publications ou travaux liés aux programmes d'hydrographie ainsi que d'océanographie physique et chimique du ministère des Pêches et des Océans.

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60(6) Carmack, E. C., J. E. Papadakis, D. M. Macdonald, and R. W. Macdonald. 1989. NOGAP B.6; Volume 6: Physical data collected in the Beaufort Sea, summer 1987. 219 p. (13)

76. Forbes, J. R., D. L. Mackas, R. M. Brown, K. L. Denman, and E. A. MacIsaac. 1990. Zooplankton distribution and associated biological, physical and chemical data: Barkley Sound, Vancouver Island, April 1987 and May 1988 (MASS Program). 139 p. (13)

80. Macdonald, R. W., E. C. Carmack, M. C. O'Brien, F. A. McLaughlin, B. G. Minkley, and K. Berger-North. 1990. Oceanographic data collected from the *Sir John Franklin* in the Beaufort Sea, September 1989. 100 p. (13)

83(1) Ages, A. B., F. A. Dobbs, and C. D. McAllister. 1990. The salinity intrusion in the Campbell River Estuary: salinity, temperature and current observations, 1984-1986. 243 p. (13)

(2) Ages, A. B., F. A. Dobbs, and C. D. McAllister. 1990. The salinity intrusion in the Campbell River Estuary: salinity, temperature and current observations, 1984-1986. 191 p. (13)

90. Colbourne, E. B., P. Stead, and S. Narayanan. 1990. Long-term temperature monitoring program 1988, Newfoundland Region. 324 p. (8)

91. Lively, R. R., and B. Petrie. 1990. Labrador current variability study: current meter observations October 1985 to January 1986. 146 p. (6)

92. Cross, S. F., and R. O. Brinkhurst. 1991. Spatial distribution of macrobenthic infauna in Burrard Inlet: November, 1989. 35 p. (13)

93. Gregory, D. N., E. Verge, and P. Langille. 1991. Long-term temperature monitoring program 1990: Scotia-Fundy and the Gulf of St. Lawrence. 197 p. (6)

94. Loder, J. W., and R. G. Pettipas. 1991. Moored current and hydrographic measurements from the Georges Bank Frontal Study, 1988-89. 139 p. (6)

95. Ross, C. K. 1991. Currents, temperature and salinity data from northern Baffin Bay, October 1985 - August 1986. 161 p. (6)

97. Macdonald, R. W., E. C. Carmack, F. A. McLaughlin, D. Sieberg, M. C. O'Brien, D. Paton, R. Pearson, Yang Liangfeng, and C. Gobeil. 1991. Oceanographic data collected from the *Henry Larsen* in the Beaufort Sea, August-September 1990. 142 p. (13)

101F. Gobeil, C., D. Paton, F. A. McLaughlin, R. W. Macdonald, G. Paquette, Y. Clermont et M. Lebeuf. 1991. Données géochimiques sur les eaux interstitielles et les sédiments de la mer de Beaufort. 92 p. (12)

CANADIAN CONTRACTOR REPORT OF HYDROGRAPHY AND OCEAN SCIENCES/ RAPPORT CANADIEN DES ENTREPRENEURS SUR L'HYDROGRAPHIE ET LES SCIENCES OCÉANIQUES

Abbreviation/Abréviation: CH

Contractor reports are unedited, final reports from scientific and technical projects contracted by the Department of Fisheries and Oceans. The contents of the reports are the responsibility of the contractor and do not necessarily reflect the official policies of the Department. If warranted, contractor reports may be rewritten for other publication series of the Department or for publication outside the government.

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35. Fissel, D. B., and H. Melling. 1990. Interannual variability of oceanographic conditions in the southeastern Beaufort Sea. 102 p. (13)

38. Fissel, D. B., and J. R. Birch. 1990. Satellite-tracked drifting buoy measurements off Labrador and Newfoundland, 1981-1983. 106 p. (6)

39. Fissel, D. B., and D. D. Lemon. 1991. Analysis of physical oceanographic data from the Labrador Shelf, summer 1980. 136 p. (6)

40. Godin, G. 1991. A study on the tide reaching Saint John, New Brunswick, in the Bay of Fundy. 27 p. (9)

CANADIAN TRANSLATION OF FISHERIES AND AQUATIC SCIENCES/ TRADUCTION CANADIENNE DES SCIENCES HALIEUTIQUES ET AQUATIQUES

Abbreviation/Abréviation: TS

The articles in this series have been translated at the request of Department scientists for use in their research work. Copies of translations may be obtained from Translation Services, Canada Institute for Scientific and Technical Information, National Research Council, Ottawa, Ontario, Canada K1A 0S2.

Les scientifiques du ministère ont demandé de faire traduire les articles de cette collection en vue de leurs recherches. On peut obtenir des exemplaires d'articles traduits au Service de traduction de l'Institut canadien de l'information scientifique et technique, Conseil national de recherches Canada, Ottawa (Ontario), Canada K1A 0S2.

5520. Wierzbicka, J. 1988. Parasitic fauna of blue halibut (*Reinhardtius hippoglossoides* (Walbaum, 1972)) from selected regions of species occurrence. 116 p. (Translated from Polish: Akad. Roln. Szczecinie Diss. 114: 82 p.)

5521. Liu, C. L. 1979. Studies on the extraction of gelatin from shark skin and skate skin. 34 p. (Translated from Chinese: Chung Kou Nung Yeh Hua Hsueh Hui Chih 17(1-2): 37-46.)

5522. Iguchi, T., S. Kondo, and K. Hisatsune. 1989. Chemical properties of lipopolysaccharide (LPS) isolated from *Vibrio anguillarum* PT 514. 19 p. (Translated from Japanese: Nihon Saikingaku Zasshi 44(6): 805-812.)

5523. Ogawa, Y., and T. Sasaki. 1988. Catch-fluctuation patterns of *Todarodes pacificus* (Steenstrup) in northern Japanese coastal waters of the Pacific Ocean. 90 p. (Translated from Japanese: Tohokuko Suisan Kenkyusho Kenkyu Hokoku 50: 1-24.)

5524. Ronnestad, I. (ed.). 1988. Rearing of halibut (*Hippoglossus hippoglossus* L.). 213 p. (Translated from Norwegian: Havforskningsinst. Rapp. A 8806: 106 p.)

5525. Tajima, K., K. Tomita, K. Kudo, M. Matsuya, and T. Yoshida. 1978. A comparison of the gonadal maturation of a sea urchin, *Strongylocentrotus intermedius*, from Soya and Rebun Island in northern Hokkaido. 13 p. (Translated from Japanese: Hokusuishi Geppo 35(2): 1-9.)

5526. Yamada, S., B. Zhao, and N. Hirayama. 1989. On the catchability coefficient of abalone fisheries. 16 p. (Translated from Japanese: Tokyo Suisandai Kempo 76(1-2): 7-17.)

5527. Tajima, K. 1982. Marking method for sea urchin *Strongylocentrotus intermedius* with brilliant red dye. 10 p. (Translated from Japanese: Hokusuishi Geppo 39(4): 81-87.)

5528. Tajima, K., and M. Fukuchi. 1989. Studies on the artificial seed production of the sea urchin, *Strongylocentrotus intermedius*. I. The growth of early juveniles in winter. 17 p. (Translated from Japanese: Hokusui Shikenpo 33: 21-29.)

5529. Olasson, P. 1972. Mechanical shucking of scallops. 6 p. (Translated from Icelandic: Taeknitidindi rannsoknastofnun fiskidnadarins 6: 1-3.)

5530. Larsen, S. [No date]. Landing live Icelandic scallops. 34 p. (Translated from Norwegian: Sluttrapp. Fiskerisjefen i Troms: 37 p.)

5531. Shimizu, U. 1990. Toxins produced by marine bacteria. 15 p. (Translated from Japanese: Shokuhin Eisei Kenkyu 40(6): 47-58.)

5532. Anonymous. Date unknown. Fishing methods for urchins in Hokkaido. 24 p. (Translated from Japanese: [Publication title unknown]: 449-461.)

5533. Tajima, K. 1988. Present situation in the production of artificial seedlings of *Strongylocentrotus intermedius* (Parts 1 and 2). 27 p. (Translated from Japanese: Hoku. Sui. Shi. Dayori 3-4: 1-13.)

5534. Val'ter, E. D. 1968. *Caprella septentrionalis* Kroyer (Amphipoda, Caprellidae), an intermediate host of nematodes of the genus *Contracaecum* Railliet et Henry. 7 p. (Translated from Russian: Zool. Zh. 47: 127-131.)

5535. Semenova, M. K. 1979. The role of copepods in the life cycle of *Contracaecum micropapillatum* (Ascaridata, Anisakidae). 6 p. (Translated from Russian: Tr. Gel'mintol. Lab. 29: 126-129.)

5536. Savinova, T. N. 1990. Chemical pollution of northern seas. 174 p. (Translated from Russian: USSR Acad. Sci., Apatity (USSR): 145 p.)

5537. Yamasaki, A., and A. Kuwahara. 1991. Horizontal distribution pattern and carapace size composition of snow crab *Chionoecetes opilio* caught by trap. 15 p. (Translated from Japanese: Nippon Suisan Gakkaishi 57(3): 439-446.)

5538. Larsen, J. L. 1988. Prevention of vibriosis, furunculosis and redmouth disease in rainbow trout. 9 p. (Translated from Danish: Dan. Vet. Tidsskr.: 71(13): 688-690.)

5539. Lillehaug, A., R. Gudding, and J. I. Erdal. 1990. Vaccination of salmon against furunculosis. 8 p. (Translated from Norwegian: Norsk Vet. Tidsskr. 102(10): 673-674.)

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